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QUARTERLY JOURNAL
OF
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THE DUBLIN

QUARTERLY JOURNAL

OF

MEDICAL SCIENCE;

CONSISTING OF

ORIGINAL COMMUNICATIONS,

REVIEWS, RETROSPECTS, AND REPORTS,

INCLUDING THE

LATEST DISCOVERIES IN MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

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THE DUBLIN

QUARTERLY JOURNAL

OF

MEDICAL SCIENCE.

AUGUST 1, 1849.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Report upon the recent Epidemic Fever in Ireland.*

(*Continued from vol. VII., page* 404.)

LEINSTER.

First Class of Queries.—The Outbreak and Antecedents of the Epidemic.

Carlow.—In this county the epidemic prevailed very generally. Previous to its outbreak, the health of the district was good, "as much so as at any time for the last eight years"(*a*). The fever broke out in March, 1847. Nothing remarkable as regards their state of health previously was noticed in those who were attacked. All classes in society, except the very highest, were affected, but the poor chiefly. In the town of Carlow the disease was not noticed as setting in often after recovery from the effects of want of food(*b*); but in the country districts it seems to have often set in after starvation. Scurvy or purpura did not

(*a*) Dr. Roche, Bagnalstown.

(*b*) Dr. Connor.

precede the epidemic. An epizootic disease prevailed amongst cattle the year previously. The greatest number attacked were under fifty years of age. Females were more liable to be affected than males, but Dr. Connor remarks that the disease was less fatal to them. During the year 1847, there were admitted 714 patients into the Carlow Fever Hospital(*a*).

Kilkenny.—The disease was very prevalent in this county. The state of health of the district was under the average previously to the outbreak of the epidemic. In the neighbourhood of Castlecomer it commenced in April, 1847(*b*). Those attacked were previously in a bad state of health. The labouring classes and small farmers in the country districts, and the lower order in towns, were chiefly affected, but the disease was not noticed to have set in generally after recovery from the effects of starvation. In some cases it was preceded by scurvy or purpura, the latter of which was present as a prominent symptom in the greater number of cases(*c*). An epidemic was prevalent amongst horned cattle previously, and at the same time. Adults were principally attacked, and "males were more liable to the disease than females. The proportion of the cases to the population of the district was about 1 in 27"(*b*).

King's County.—Dysentery, diarrhœa, and dropsy, were very prevalent in this county previously to the breaking out of the epidemic, which was very prevalent, having commenced in April, 1847(*d*). All classes in society suffered, chiefly the poor, but the higher classes also in the ratio of their numbers(*e*). The disease very generally set in after recovery from the effects of starvation, but it was not preceded by scurvy or purpura. An epidemic prevailed amongst cattle at the same time as the epidemic of fever, "and is now (September, 1848) more general than during the past year"(*f*). All ages were liable to the disease; and females more than males, in the proportion of about 2 to 1.

(*a*) Dr. Connor. (*b*) Dr. Ross. (*c*) Dr. Lalor, Kilkenny.
(*d*) Dr. Cheevers, Kinnetty. (*e*) Dr. Bird, Banagher. (*f*) Dr. Cheevers.

Queen's County.—The health of the district was bad previously to the epidemic, which commenced in May, 1847. Those attacked were generally in a weak state, the digestive organs being especially affected, as evidenced by diarrhœa. The poorer classes chiefly suffered from the disease, which very often set in after recovery from the effects of starvation, but was in few instances preceded by purpura or scurvy. An epizootic prevailed amongst pigs and horned cattle. Those persons attacked were principally between the ages of 16 and 60; the proportion of females was in general somewhat more than that of males. "The population of the district of the Ballinakill Dispensary was about 6000; during the active prevalence of the epidemic, from 1st of May to 1st of November, 1847, 420 cases were treated; of these 122 were females and 198 males"(*a*).

Dublin.—The late epidemic of fever was remarkably prevalent in both the city and county. The lower orders of the population suffered much from scurvy for many months previously(*b*); in other respects the general health had been good; acute diseases had not prevailed much, and the mortality was somewhat below par. Fever first began to be very prevalent in the month of February, 1847; yet cases were noticed to have occurred in the latter end of 1846 in a greater proportion than usual. Those first attacked were individuals who had been much reduced by bad diet or insufficiency of food, and throughout the continuance of the epidemic the lower classes were chiefly affected. In many cases the fever set in immediately after recovery from the effects of starvation; and although scurvy preceded the disease, neither it nor purpura was noticed to have often occurred as a concomitant symptom. Dr. Battersby remarks that the latter was present in some cases under his care. An epizootic disease prevailed amongst cattle

(*a*) Dr. Walshe.

(*b*) See Dr. Curran's essay, Dublin Quarterly Journal, vol. iv. p. 83.

throughout the county. Young persons seem to have been particularly liable to be attacked with the fever. Dr. Minchin remarks that, in his experience, the greatest number of cases occurred between the ages of 10 and 20; Dr. Wyse says from 15 to 40. It is doubtful whether males or females were more liable to the disease.

Wicklow.—The epidemic commenced in this county in the beginning of 1847; in the spring of which year it prevailed very extensively. Previously to its breaking out the health of the population was not good. "Bowel complaints had been prevalent for some time"(*a*). The poorest classes were chiefly affected. Those whose constitutions were broken down, or health deteriorated, from any cause, were most liable to the disease. Fever did not seem to have set in after recovery from the effects of starvation. Dr. Nolan of Wicklow states, indeed, that the people in his district did not suffer from a state amounting to starvation; and Dr. Darby mentions that those who suffered most severely from want of food were more subject to dysentery than to fever. Scurvy or purpura did not precede the disease, but Dr. Nolan saw more cases of purpura than in previous years. The ordinary distemper prevailed amongst cattle for many months before the outbreak of the fever, and was also prevalent in this county during the summer of 1848, after the cessation of the fever epidemic. Young persons were most liable to the disease. In the county of Wicklow fever hospital, during the year 1848, 229 males and 176 females were admitted; of these 199 were under the age of 20; 150 between 20 and 40; forty-four between 40 and 60; and twelve over 60.

Louth.—The epidemic commenced in this county in May, 1847, after which time it was very prevalent. The state of the health of the district was very bad previously; dysentery, "or

(*a*) Dr. Darby, Bray.

rather passive hemorrhage from the bowels"(*a*), having prevailed for several months. Most of those attacked "had suffered from want and privations of various kinds"(*b*), or "had experienced a total change of food"(*a*). The very poorest classes in society were those chiefly attacked, and the disease often set in after recovery from a bad state of health, produced by the want of a sufficiency of food. The fever was not preceded by either scurvy or purpura. No disease was prevalent amongst cattle immediately before the outbreak of the epidemic. Young persons were chiefly attacked, the greater number of cases occurring between the ages of 7 and 40. Males were not more liable to the disease than females. The proportion of cases to the population of the district was, according to Dr. Browne's report, about 1 to 15.

Westmeath.—The population of this county had suffered very much from various diseases, especially dysentery and dropsical swellings of the extremities, previously to the breaking out of the epidemic, which was very prevalent. In Moate(*c*) it commenced in 1847, but in other parts of the county, as in Castletowndelvin, it did not begin until July of the same year. The greater number of those attacked were previously in bad health. All classes were affected, but the poor chiefly, and the disease very frequently set in after recovery from the effects of starvation. "The fever was frequently preceded by scurvy and purpura"(*d*), but Dr. Bewley states that such was not the case in his district, and that purpura was extremely rare. There was no disease of cattle prevalent at the same time as or previously to the epidemic of fever. All ages and both sexes were equally liable to the disease. According to Dr. Bewley, the proportion of cases to the population of the district was about 1 in 10.

Meath.—In different parts of this county the epidemic broke

(*a*) Dr. Stronge, Ravensdale.
(*b*) Dr. Browne, Dundalk.
(*c*) Dr. Bewley, Moate.
(*d*) Dr. Williams, Castletowndelvin.

out at various periods; in Trim it commenced in January, 1847(*a*); in Kells in May(*b*); and in Navan in June of the same year(*c*). It was very prevalent generally, the health of the people previously having been much as usual, except at Trim, where dysentery had prevailed. The poorer classes were chiefly affected, and the disease frequently set in after recovery from the effects of starvation. An epidemic was prevalent amongst cattle previously to the outbreak. Most of those attacked were young persons; males were not more liable to the disease than females. The population of Dr. Pentland's district was 43,000, and the number admitted into hospital 1900.

Longford.—The epidemic of fever was very prevalent in this county; the health of the population had been previously good, with the exception of dysentery, which was prevalent in some of the country districts. It commenced in May, 1847, and attacked all classes, "principally the poor"(*d*), "first the lower class and afterwards the better"(*e*). The disease often set in after a recovery from starvation, but Dr. Daly remarks that he does not think there was any further connexion between the epidemic and famine, except that persons weakened by want of food were in a bad condition to resist disease. The fever was not preceded by either purpura or scurvy. There was great mortality amongst horned cattle previously to the outbreak of the epidemic. Young persons were chiefly attacked, from 15 to 30(*e*), and under 20(*d*). In the temporary fever hospital at Granard, from the 2nd August, 1847, to the 23rd September, 1848, 671 patients were admitted; of these 285 were males, and 386 females; 394 were under twenty years of age; 193 from 20 to 40; seventy-four from 40 to 60, and ten above 60. In Dr. Harris's experience, out of every twelve who were attacked, nine were males, and the proportion of cases to the population of his dictrict was about 1 in 60.

(*a*) Dr. Wallace. (*b*) Dr. Pentland. (*c*) Dr. Nicolls.
(*d*) Dr. Daly, Granard. (*e*) Dr. Harris, Drumlish.

The only return which we have received from the county of Wexford, is the report of Dr. Boxwell, and from Kildare that of Dr. Faulkner, for both of which the reader is referred to the provincial summary of reports.

Second Class of Queries.—The Character and Symptoms of the Disease.

Carlow.—The different reports from this county agree as to the fact of the late epidemic having afforded abundant evidence of the disease being contagious. No difference is noticed in the symptoms of cases occurring in different classes of society. Where the fever followed starvation it was of a very low character, "with much greater irritability of the gastro-intestinal mucous membrane than usual"(*a*). It differed from former epidemics, especially in a tendency to relapse. In Dr. Connor's experience purpuric spots and miliary eruptions were frequent, but they were not very common in the cases attended by Dr. Roche. The latter physician also observed crisis very frequently, diaphoresis and rigors being the most usual critical phenomena.

Kilkenny.—The disease was in this county undoubtedly contagious. Dysentery formed the essential difference in those cases which followed starvation, typhoid symptoms setting in in the latter stage and in the relapse. The epidemic differed from former outbreaks of fever in the almost invariable tendency to relapse(*b*), and in the frequency of purpuric spots(*c*); the latter were not witnessed by Dr. Ross, except in the last stages of protracted cases. This physician remarks that crisis was not common in his experience.

For a special account of the purpuric fever in the city of Kilkenny we refer our readers to Dr. Lalor's paper in the fifth volume of this Journal.

King's County.—The disease was manifestly contagious. In

(*a*) Dr. Roche. (*b*) Dr. Ross. (*c*) Dr. Lalor.

the higher classes of society "it assumed more generally a typhoid type, and the mortality was much greater than in the lower"(*a*). Dysentery and diarrhœa were more frequent in the cases following starvation. The fever differed from former epidemics chiefly in its duration and the liability to relapse. Purpuric spots were not often noticed. Crisis was infrequent; when it occurred it was marked generally by profuse diaphoresis.

Queen's County.—Sufficient proofs were afforded of the disease being contagious. "Extreme depression of the vital powers was the leading characteristic of the fever amongst the poor; and in the better classes congestion of one or more of the internal organs, particularly the brain"(*b*). Those cases which followed starvation were especially marked by irritability of the digestive organs and a tendency to relapse. "Typhoid symptoms generally occurred, in cases of fever following starvation, about the fifth or seventh day, but often in the very commencement"(*b*). The fever differed from former epidemics in the tendency to relapse, "and in the excessive irritability of the digestive organs"(*b*). Purpuric spots were rather frequent, and crisis was frequently noticed; the usual critical phenomena being profuse secretion of transparent urine and profuse diaphoresis.

Dublin.—In both city and county nearly all the reports concur in stating that abundant evidence was afforded of the disease being contagious. Dr. Battersby states that in the temporary fever hospital to which he was attached a large number of the nurses contracted fever, many of whom were under his care; some of them were affected more than once. In the higher classes the disease was especially marked by the early occurrence of head symptoms and typhoid prostration. "Among the poor the symptoms were always quite manageable, and the good effect of remedies in most cases was at once apparent"(*c*).

(*a*) Dr. Cheevers. (*b*) Dr. Walshe. (*c*) Dr. Minchin.

In the cases which followed starvation Dr. Wyse observes that the symptoms were not so prominent, and the stages not so well marked. He also observed, that in these cases the typhoid symptoms followed the starvation state from the sixth to the twelfth day. The very general tendency to relapse especially characterized the last epidemic. Purpuric spots were commonly noticed. In the north city fever sheds crisis was not common, but when it occurred it was well marked, most usually by profuse perspiration, epistaxis, or diarrhœa. Dr. Battersby observed it frequently and marked by sweating.

Wicklow.—Various proofs of the contagious character of the fever are afforded by the reports from this county, but Dr. Darby of Bray states that from the opportunities he has had, he has formed the opinion that the disease is not contagious. In the higher orders the head was principally engaged. The chief difference noticed between this fever and former epidemics was its assuming a more typhoid character, ascribed by Dr. Nolan to the debilitated state of the individuals affected. Purpuric spots were not noticed by Dr. Darby or Dr. Boswell, but Dr. Nolan states that dark measly spots were almost constant. In Bray, crisis was almost invariably present, usually by sweating, occasionally by diarrhœa(*a*). In Wicklow it was not common; when it did occur the phenomena were diarrhœa and urinary deposits.

Louth.—Fever was reported to have been here manifestly contagious. In those cases which followed starvation the relapses were more frequent, and the recovery slower, requiring stimulants at an early period; and dysentery almost always following as one of the sequelæ. The frequency of relapse was the chief characteristic of the late epidemic. Purpuric spots were not common; they were noticed by Dr. Strong occasionally when the fever was accompanied by diarrhœa. When crisis occurred the most usual critical phenomenon was profuse sweating.

(*a*) Dr. Darby.

Westmeath.—The fever was here unquestionably contagious. In the higher classes it was marked by typhoid symptoms; in the lower it was of a much milder type. Dysenteric symptoms generally occurred in those cases which followed starvation. Purpuric spots were frequently observed by Dr. Williams, but not often by Dr. Bewley. When crisis occurred, which it did very generally in Dr. Bewley's practice, profuse perspiration was the most usual critical phenomenon.

Meath.—In this county most of the reports afford evidence of the disease having been contagious, but Dr. Wallace of Trim did not observe that it was so: in the Navan temporary fever hospital all the nurses had fever(*a*). Typhoid symptoms were more marked in the higher orders. In those cases which followed starvation the disease was of longer duration, and the recovery was slower. Dr. Pentland witnessed several cases in which starvation produced dysentery, terminating in fever. Frequency of relapse especially characterized the epidemic. Purpuric spots occurred in about 25 per cent. of the cases. Crisis, by diaphoresis, was generally noticed.

Longford.—Numerous proofs of contagion are reported from this county. In Granard four of the nurses and the physician were attacked with fever(*b*). Head symptoms were generally present in the higher classes, and the type of the disease was lower. Dr. Harris mentions that the fever was of a milder character in those cases which followed starvation, and that the typhoid symptoms usually set in from the ninth to the twelfth day. Tendency to relapse principally characterized the epidemic. Purpuric spots were not common. When crisis occurred it was marked by sweating and epistaxis.

Third Class of Queries.—Complications.

Carlow.—Dysentery in most cases accompanied the fever, but still more generally followed it. Affections of the digestive

(*a*) Dr. Nicolls. (*b*) Dr. Daly.

organs were the most frequent complications. Relapses were exceedingly common, indeed "occurred so frequently as to be the rule."(*a*) In relapsed cases the type of the fever was much lower, the character of the fever more grave, and the duration longer, than in those in which relapses did not occur; and both Dr. Roche and Dr. Connor noticed the occurrence of petechiæ in relapse when it did not occur in the primary fever. No notice was taken of any morbid phenomena of the heart being present. Epistaxis was frequent at all stages, especially in persons about the age of puberty. Enlargement of the spleen was not noticed in any case. Bed-sores were infrequent.

Kilkenny.—Dysentery preceded and accompanied the fever. In Dr. Ross's practice the most usual local complications were those of the chest and the digestive organs. Relapses occurred in almost every case. Relapsed cases were more protracted, according to some returns, "always more so"(*b*), than the primary. The condition of the heart was not observed. Epistaxis was frequent in the latter stages. The spleen was noticed by Dr. Ross to have been enlarged. Bed-sores were not common.

King's County.—Dysentery preceded fever in many cases, "and either accompanied or followed it in almost all"(*c*). The most frequent local complications were those of the chest. Relapses were remarkably frequent, the relapsed cases being more severe, and convalescence more tedious. Petechiæ in some cases appeared in the relapse when they did not occur in the primary fever. Epistaxis was frequent in all stages. "No enlargement of the spleen was noticed, but pain and tenderness on pressure over it were frequent during convalescence"(*c*). Bed-sores were not common.

Queen's County.—Dysentery occurred in all stages of the fever, and both preceded and followed it. The most frequent local complications were those of the digestive organs, but in

(*a*) Dr. Connor. (*b*) Dr. Ross. (*c*) Dr. Cheevers.

some cases the nervous and respiratory systems were also engaged. Relapses occurred in almost all cases; the relapsed cases being usually more severe in character, and followed by a more protracted convalescence. Petechiæ rarely appeared in relapsed cases; "there were but few instances of relapse occurring in regular petechial fever"(*a*). Epistaxis was frequent, usually occurring about the end of the first week. Dr. Walshe observed that, in some persons who had suffered from repeated relapses, the spleen became enlarged, and this enlargement was sometimes followed by general anasarca. Bed-sores seldom occurred.

Dublin.—The fever was accompanied in a great number of cases by dysentery. It was a common sequela, but did not so frequently precede the disease. Derangements of the digestive organs were the most frequent local complications; affections of the chest were also common. Relapses were extremely frequent. In these cases, as noticed by Drs. Battersby and Wyse, the primary fever was usually slight and quick in its course; and the former physician remarks, that the secondary fever was attended with vomiting. Petechiæ were not noticed in the relapse, when they did not occur in the primary fever. Dr. Minchin reports that he observed, in several cases, a "diffused softness of the first sound, a want of definedness." Enlargement of the spleen was often observed; Dr. Battersby observed it generally in relapsed cases. Dr. Wyse states his opinion, "that the spleen was very often seriously engaged in this epidemic." Bed-sores were very rare, according to some observers; but Dr. Wyse states that in the temporary fever hospital, at the north side of the city, sloughing bed-sores were very frequent.

Wicklow.—Dysentery was frequently observed as an accompaniment of the fever, and also after it had subsided, except in Newtown-Mount-Kennedy(*b*). The most frequent local compli-

(*a*) Dr. Walshe. (*b*) Dr. Boswell.

cations were those of the chest; but, during the hot months of summer, the digestive organs were chiefly engaged, "when jaundice, if not yellow fever, occurred in several instances"(*a*). Relapses were very frequent, except in Dr. Boswell's district. In relapsed cases the symptoms of the primary fever were generally mild, and the disease shorter. Petechiæ were noticed by Dr. Nolan in relapse, when they did not appear in the primary fever. Epistaxis was not common; but Dr. Darby reports that, in his experience, it occurred very commonly about the fifth day, where the head was much engaged. No enlargement of the spleen was observed, and bed-sores were not frequent.

Louth.—The fever was frequently accompanied and followed by dysentery. "We had first dysentery, then dysentery and fever (in the latter purpuric spots were sometimes present), and then fever alone"(*b*). The most frequent local complications were those of the digestive organs; the head was also often engaged. Relapses were most frequent, coming on generally about the fourteenth day(*c*); debility and gastric symptoms were the most general characteristics of the relapsed cases; petechiæ very rarely occurred when they were not present in the primary cases. No morbid phenomena of the heart were noticed: Dr. Stronge most truly observes, that it was no easy matter to examine the state of the heart in persons attacked with fever, where five or six were lying together on the same "wad of straw." Epistaxis was frequent, generally at the commencement of the disease. No enlargement of the spleen was observed, and bed-sores occurred but in very few cases.

Westmeath.—Dysentery more frequently preceded the fever, but was observed at all stages. Derangements of the digestive organs were the most usual local complications; next those of the respiratory organs, and the least frequently noticed were

(*a*) Dr. Nolan. (*b*) Dr. Stronge. (*c*) Dr. Browne.

those of the head; but Dr. Bewley states that he does not recollect an epidemic in which there were fewer local complications. Relapses occurred in almost every case; "very frequently in the five-day fever, and I have known some cases in which there were four or five relapses at irregular intervals"(*a*). Dr. Williams observed that petechiæ appeared in relapse, when they did not occur in the primary fever. The action of the heart was noticed to have been confused and indistinct in the strictly typhoid cases, "one of the sounds being often inaudible"(*a*). When epistaxis occurred it was usually in the latter stage; enlargement of the spleen was not observed, and bed-sores were very infrequent.

Meath.—Though dysentery sometimes preceded the fever, it most generally followed it. The most usual local complications were those of the digestive organs, and next in frequency the lungs were engaged. Relapses were exceedingly frequent; "often occurring thrice in the same individual"(*b*). In this county but little difference was noticed between the primary and relapsed cases. Petechiæ did not occur in the relapse when they were not present in the primary fever. No morbid phenomena of the heart were observed. Epistaxis was not frequent; but Dr. Pentland observed it in many cases, towards the termination of the disease, in the autumn of 1847. No enlargement of the spleen was noticed, and bed-sores were remarkably infrequent.

Longford.—Both before, during, and after the fever, dysensery was very general. Dr. Harris reports that, in his practice, local complications occurred in the following order of frequency:—head symptoms, about one in six; bronchitis, about one in ten; and anasarca, about one in twelve. Relapses were very general; "relapsed cases not being so severe"(*c*). Petechiæ appeared in a few instances in the relapse, when they were not present in the primary fever. The only morbid phe-

(*a*) Dr. Bewly. (*b*) Dr. Wallace. (*c*) Dr. Daly.

nomenon of the heart observed was "feeble action, accompanied by irregular and intermittent pulse"(*a*). Epistaxis was chiefly observed in young persons, and when the head was engaged. Enlargement of the spleen was not noticed, and bed-sores were excessively rare.

Fourth Class of Queries,—including the Mortality and morbid Appearances.

Carlow.—We have no report from this county as to the proportionate mortality amongst the different classes attacked; but Dr. Roche remarks, that it was greater amongst those attended at their own houses than in hospitals. No *post mortem* examinations were made.

Kilkenny.—The mortality was much greater amongst the inhabitants of towns than in rural districts, and also amongst those attended at their own houses than in hospitals. Dr. Ross states, that in his district no *post mortem* examinations were allowed.

King's County.—Dr. Cheevers writes:—"The least mortality was amongst the poor; in my hospital not above five per cent."(*b*) Dr. Bird, of Banagher, states, that the mortality from fever was small, but that it was followed by very fatal sequelæ. The mortality was decidedly greater, "in the proportion of three to one"(*b*), amongst those attended at their own houses than in hospitals. No *post mortem* examinations were made.

Queen's County.—The mortality was much greater, in proportion to the numbers attacked, amongst the higher orders than amongst the poor; and also much greater amongst those attended at their own houses than in hospitals. Towns and densely populated districts exhibited a greater mortality than thinly populated country parts. No *post mortem* examinations were made.

(*a*) Dr. Harris. (*b*) Dr. Cheevers.

Dublin.—When fever attacked the higher classes it was invariably of a much more fatal character than amongst the poor. The per centage of mortality was also much greater amongst those attended in their own houses than in the cases attended in hospital. From the reports furnished to us it would appear that *post mortem* examinations were made but in very few cases. In those examined at the North Union fever sheds, Dr. Wyse states, that the only remarkable appearance was splenic engorgement.

Wicklow.—The reports from this county differ as to the proportion of the mortality in the various classes attacked, but very few of the higher classes seem to have suffered from the disease. All agree that the mortality was greater amongst those attended at their own houses. No *post mortem* examinations were made.

Louth.—But very few of the higher classes were attacked with fever in this county. Both Dr. Browne and Dr. Stronge agree in stating that the per centage of mortality was greater among those attended in hospitals than in their own houses. The former physician is of opinion that this may be partly accounted for by the fact, that those cases admitted into hospital were usually of the worst character, and from among the poorest classes in society; the towns and densely populated districts suffered most. No *post mortem* examinations were made.

Westmeath.—The mortality was greatest amongst persons in comfortable circumstances, and was also much higher amongst those attended at their own houses, and in the towns, except in Moate, " which is clean and airy, and here the mortality was not greater than in the rural district"(*a*). No *post mortem* examinations were made.

Meath.—The higher classes suffered most; the per centage of mortality was much greater amongst those attended at their own houses than in hospitals; and towns and densely populated districts generally were most severely visited.

(*a*) Dr. Bewly.

Longford.—The proportion of mortality was much greater in the higher than in the lower classes; "one in twelve in the former, about one in twenty in the latter"(*a*). The per-centage of mortality was also greater in the hospitals than in those attended at their own houses. Towns, and densely populated districts, suffered most. No *post mortem* examinations were made.

Fifth, Sixth, and Seventh Class of Queries,—relating to the Duration of the Disease, Modifications, and Sequelæ.

Carlow.—The disease was called a five-day fever in those cases which were followed by relapse. In the other forms the duration was very various, as was also the length of the convalescence. The symptoms varied in individuals of the same family, placed under similar circumstances. "In some," writes Dr. Roche, "the fever was of a much more severe character than in others; in some dysentery, in others cerebral symptoms prevailed." The most usual sequelæ were, violent pains in the lower extremities, anasarca, swellings, and abscesses in the cervical region.

Kilkenny.—The usual duration of the primary fever was from five to nine days; the length of convalescence averaged four weeks. The primary cases that were followed by relapse were generally of a milder form. Members of the same family, who had contracted fever from the same cause, presented symptoms differing much both in intensity and local complications. Dr Ross, of Castlecomer, states that the most usual sequelæ of the disease were cutaneous eruptions.

King's County.—The ordinary duration of the disease was, "in simple fever, from ten to twelve days; in eruptive or typhus fever, from ten to twenty days"(*b*). Twelve days was the average length of convalescence. The greatest diversity in symptoms was noticed amongst individuals of the same family, placed under similar circumstances, and even in those who contracted

(*a*) Dr. Harris. (*b*) Dr. Cheevers.

fever from the same cause. The most usual sequelæ were anasarca, swelling of the limbs, diarrhœa, and pain over the liver and spleen.

Queen's County.—The duration of the disease varied from nine to fifteen days, to be followed in many cases by very tedious convalescence, extending sometimes to six or seven weeks. The primary cases, which were followed by relapse, were almost invariably of a very mild character, and of short duration. "Diversity of symptoms was very rarely observed in persons of the same family, placed under similar circumstances, except the modifications incidental to age and constitution. The type of the disease was the same, though, in individuals, complications might differ"(*a*). Anasarca, cervical glandular swellings, often ending in suppuration, and splenic enlargement, were the most usual sequelæ in this district.

Dublin.—The duration of the disease varied from one to three weeks, and the convalescence was generally tedious, although patients were frequently dismissed from hospital in from five to ten days after recovery. Where relapse followed the primary fever, the latter was usually mild and of short duration. No modification of symptoms was noticed in the reports we have received, in members of the same family, who contracted fever from the same cause, or were placed under similar circumstances. The usual sequelæ were dysentery, diarrhœa, obstinate pains in the limbs, bronchitis, and, in some cases, enlargement of the spleen.

Mr. Thomas Parr has afforded us the following observations upon the state of the spleen: "I beg to relate an interesting and anomalous physical sign which I first observed about twelve months ago, whilst in charge of a temporary fever hospital in Dublin, and which since then I had an opportunity of witnessing a few examples of, namely, a loud continuous murmur in the spleen, accompanied in all cases by

(*a*) Dr. Walshe.

enlargement, as evidenced positively by percussion, and presumptively by the prevailing pathological condition during the epidemic. The reason of my making use of these expressions is, in consequence of no patient in which the phenomenon was observed affording an opportunity of inspection. Indeed it was not until the epidemic was disappearing, or nearly gone, that my attention was directed to the sound; and it was an accident which induced me to apply the stethoscope to the part.

"A patient who was labouring under the short fever, in a well-marked form, having had two relapses, complained of a pain in the left hypochondrium, with throbbing; and being fearful of aneurism, as he had suffered some injury in the part a short time previous, I applied the stethoscope, and was surprised to find a loud continuous murmur in the neighbourhood of the splenic vessels. Thinking, from the constant enlargement of the spleen in the disease, that the sound might have been caused by the disordered circulation in that organ, I sought for it in the situation where dulness was most evident, namely, over the lower ribs; the sound here was more distinct, and I could compare it to nothing I had ever heard before, except the placental souffle; in a day or two the patient (as was usual in these cases) was attacked with diarrhœa, upon which the murmur began to disappear, and, under ordinary treatment, the patient became convalescent, the murmur not re-appearing, and left the hospital quite well, the dulness continuing, but less marked.

"The next case was that of a young man who also suffered from the epidemic, and became convalescent in the usual period (about five days); when, about the seventh day of convalescence, he suffered from relapse, accompanied by considerable pain in the left hypochondrium, increased by pressure, with extensive dulness over the spleen. On applying the stethoscope over the spleen the same continuous murmur was evident. In consequence of the pain and symptoms of inflammation, I applied a few leeches, followed by a poultice, over the part where dul-

ness was most evident; they relieved the pain, and considerably diminished the murmur. In the course of a few days more the sound was completely removed; the patient became quite convalescent. In this case no diarrhœa set in.

"The next case was one of more considerable interest; it occurred in the Meath Hospital, and the phenomenon was evident to many, particularly to Dr. Lees, one of the attending physicians.

"A boy, of thirteen years of age, of delicate make and appearance, was admitted into hospital, August 29, 1848, labouring under feverish symptoms, analogous to those of the epidemic of the preceding year, accompanied by bowel complaint, dulness over the spleen, and a sound which resembled the muscular murmur; pulse, 76; ordered chalk mixture with opium. 31st. Bowels better; murmur more distinct, and showing that it did not depend on the muscular fibre; a similar sound could not be heard over any of the large muscles, as the glutæi, recti, or oblique, even when irritated by friction. September 2nd. Dulness more marked, and murmur more distinct than I ever heard, resembling the placental souffle in a pregnant woman. The patient complained of slight pain on pressure over the liver, in which place a trace of murmur was also discovered. This day a copious crop of sudamina appeared; diarrhœa continued slightly.

"The following evening the patient was attacked with considerable epistaxis. The next day the patient appeared much better, the febrile symptoms much diminished; dulness decreased, and murmur indistinct; pain in the region of the liver gone, and no abnormal sound; bowel complaint well. In the course of a week or ten days he left the hospital quite well, murmur having entirely disappeared, but still considerable dulness over the spleen remaining.

"The foregoing cases will be sufficient to illustrate the phenomenon to which I allude. I have met with it since in several

others, and a few times have heard it in chlorotic females, but in none with the same degree of intensity as in those affected with the peculiar fever and diarrhœa in which I first observed it.

" In many of the cases in which the sound was audible, it presented itself in a great variety of forms; in some like a modified venous hum, and in others as if fluid were rushing through a number of minute cells, conveying to the ear the idea as if the cells were dry, and so a crackling or rustling sound produced. In no instance was I able to hear the arterial whiff, and from that I argue that it was entirely confined to the venous circulation in the organ. In some instances the phenomenon was fugitive, and when it was evident alteration of position had no effect on the sound. In none of those cases could the least trace of venous murmur be discovered in the jugulars, or other large veins, except in chlorotic females; and that it was not dependent on muscular fibre I positively assert, as in none of those cases could muscular murmur be heard, even when irritation of the fibre was made use of. Pressure of the stethoscope could not have produced it, as I used the instrument most delicately, and pressure could have no effect on the organ where the sound was most distinct.

" In the three cases which I have selected for illustration, the phenomenon presented itself in each under very interesting circumstances. In the first, the murmur began to disappear as soon as diarrhœa set in; in the second, the sound diminished under local depletion, and diarrhœa did not appear; and in the third, though diarrhœa was present from the first, the sound increased till nature relieved itself by epistaxis, and no relapse of the original fever appeared.

" If I may venture an opinion as to the probable connexion between the fever and dysentery, I think that the congestion of the organ increased the flow of blood into the portal circulation, and thus an increased secretion of bile is produced, which acted deleteriously on the mucous membrane of the intestines.

" In a few cases I have heard this sound over the liver, as

mentioned in the third case, but never in any well-marked form; in each there were symptoms of passive congestion of that organ; and in one case of hepatitis which I lately saw, there was no evidence whatever of it, nor was there any affection of the spleen, as inspection proved, for the case terminated fatally.

"Since I first became acquainted with the phenomenon, I looked for it often in cases of typhus, but never succeeded in discovering it. Louis, in his Researches, states, that the great majority of cases of typhus presented enlargement of the spleen, with more or less softening of the organ, but in no instance does he appear to have used the stethoscope; and yet he says the softening is in some way connected with a febrile state of the body, and depended on a change in the blood: what that change may be I cannot say."

Wicklow.—The duration of the fever was usually from a fortnight to three weeks, and convalescence lasted for about the same period of time: "This depended," writes Dr. Nolan, of Wicklow, "in a remarkable degree upon the state of the hospital; when crowded (as it unfortunately too often was), convalescence was most tedious, and relapses frequent; but when the institution was relieved by a supplementary hospital, the beneficial effect was most striking." The most usual sequelæ were anasarca, swellings, dysentery, and general debility.

Louth.—From a fortnight to three weeks was the average duration of the fever; "on the eighth day the crisis generally took place, and often on the fifth; but in almost all cases a relapse followed, by which the disease was protracted to thirteen or fourteen days, or even longer"(*a*). The convalescence was usually tedious, but little difference was, in general, noticed in the symptoms in individuals of the same family. "In some families," writes Dr. Browne, "there was a greater tendency to dysentery accompanying or following the fever than in others,

(*a*) Dr. Stronge.

which, it is probable, ought to be attributed to the particular kind of food they had lived on, and to other circumstances under which they might have been placed. The most usual sequelæ were anasarca, swellings, dysentery, diarrhœa, and severe rheumatic pains in the extremities.

Westmeath.—The average duration of the disease was about ten days. "Typhus fever generally ran from nine to fourteen days; but in several cases death occurred on the fifth or sixth day. The other fever terminated with extraordinary regularity on the fifth day"(*a*). The convalescence was generally protracted to three or four weeks. No difference was noticed in the symptoms of fever occurring in individuals of the same family, further than what might be expected from peculiarities of age and constitution; anasarca, diarrhœa, and hemorrhage from the bowels, were the most ordinary sequelæ.

Meath.—The fever generally lasted for about fifteen days, and was followed by a convalescence of from a fortnight to three weeks. Primary cases, which were followed by relapse, were mild and of short duration, usually from five to eleven days. Dr. Wallace states that he very frequently observed remarkable modifications of the symptoms in individuals of the same family, placed under similar circumstances, and in those who had contracted fever from the same cause; but such was not noticed by our other reporters from this county. Dysentery and cutaneous eruptions were the most usual sequelæ.

Longford.—The duration of the fever varied from five to twenty days, and the convalescence, seldom shorter than ten days or a fortnight, was often protracted to a month. In primary cases, followed by relapse, the fever was shorter and milder; "young children in a family suffered less than adults"(*b*). Anasarca and dysentery were the usual sequelæ.

(*a*) Dr. Bewley. (*b*) Dr. Harris.

Eighth Class of Queries,—referring to the Treatment.

Carlow.—The plan of treatment which was found most serviceable in the late epidemic by the practitioners who forwarded us returns from this county, was essentially stimulant. Wine, ammonia, and other remedies of this class, were very generally employed, but not to any great extent by Dr. Connor. Bleeding, either local or general, was very rarely resorted to, but in the few cases in which he employed it, Dr. Roche states that he found it beneficial. Mercury was used, in combination with opium, where dysentery was present, and to produce its specific effect in some cases in which local congestion occurred or was feared. "Opium was only used in convalescence from fever, when there was insomnia, and great restlessness"(*a*).

Kilkenny.—In this county stimulants were very generally used, and found most serviceable; wine, ammonia, &c., were freely given; general bleeding was not resorted to, and local in chest affections only. Mercury was administered in local complications, and generally early in the disease; and "opium was employed in dysenteric cases only"(*b*).

King's County.—Stimulants were freely administered in all stages of the fever; wine was not much used, in consequence of the expense; "good whiskey was the chief stimulant, together with stimulating medicines"(*c*). Blisters were also much employed. Neither local nor general bleedings were had recourse to; mercurial alteratives were given, but opium was not exhibited except when diarrhœa or dysentery prevailed.

Queen's County.—"In the treatment of the fever in this county, the use of stimulants was, in nearly every case, required to an extent," writes Dr. Walshe, "that he never before saw necessary." Wine, spirits, and medical stimulants of all kinds, were generally used; "general bleeding," to use the same physician's expressive words, "could not be thought of;" local bleed-

(*a*) Dr. Roche. (*b*) Dr. Ross. (*c*) Dr. Cheevers.

ing even seems to have been rarely found productive of satisfactory results in the practice of those who tried it. Mercury, to produce its alterative effect, was, in some case, found beneficial, but it does not seem to have been employed with the intention of producing its specific action. Opium was chiefly given when dysentery occurred, and generally combined with hydrargyrum cum cretâ.

Dublin.—Plenty of nourishment and the free use of stimulants, were found to be absolutely necessary in the treatment of the late epidemic fever in the large hospitals into which the patients from the city and county were received, and were also equally demanded in the treatment of those cases which occurred in private life. Wine was freely given, and with the best effects. General experience was decidedly opposed to the use of bleeding in any form. In some cases of local congestion the application of a few leeches, or the abstraction of a small quantity of blood by cupping-glasses, was found beneficial. Mercury was only given as a mild aperient or alterative, and sometimes, combined with Dover's powder, in dysenteric cases, it acted beneficially. Opium does not appear to have been very generally employed; "it was very useful for allaying the vomiting of the secondary fever"(*a*). "A combination of morphia and tartar emetic was found so valuable in cases of excitement and delirium, that it was styled a specific in the North Union fever sheds"(*b*).

Wicklow.—Stimulants, nourishment, and an expectant plan of treatment, were employed by most of the practitioners in this county. Dr. Darby employed emetics and mild purgatives in the early stages; leeching and counter-irritation in the latter stages. Wine and whisky were found most useful. General bleeding was very rarely employed, local depletion with much benefit in congestions of internal organs; but Dr. Boswell reports that he employed both general and local bleeding with

(*a*) Dr. Battersby. (*b*) Dr. Wyse.

benefit where inflammation attacked any internal organ. Mercurial preparations were only used with the intention of acting as alteratives or mild purgatives in jaundice cases. Opium was not much employed: "In cases of continued low delirium," says Dr. Nolan, "I used it often, and with benefit, particularly when combined with tartar emetic, as recommended by Dr. Graves."

Louth.—An expectant treatment was chiefly followed by practitioners in this district. Nutriment was freely given, and wine, beer, and other stimulants, very generally employed. General bleeding was not used, and local very rarely. Mercury administered in mild alterative doses, was often found beneficial; and opium was given freely with advantage in restlessness and want of sleep; also, in the form of Dover's Powder, when diarrhœa or dysentery occurred. Dr. Browne, of Dundalk, has given the following short *resumé* of his plan of treatment:

"In the treatment of the kind of dropsy that followed the fever so frequently, the greatest advantage was derived from the use of the preparations of iron, in combination with diuretics; and in many cases of rheumatism, besides opiates, much benefit was derived from the use of colchicum. At an early period in the treatment of the fever, we thought, in some instances, that the relapse was prevented by the use of quina, given in pretty large doses, but latterly it seemed to fail in this respect, and, besides, when given in solution, it was so apt to induce diarrhœa or dysentery, that it was soon given up. The use of salines also frequently had the same effect, and had to be discontinued, except the antacid water of ammonia, which seldom disagreed. Indeed I might say, with the exception of stuping the epigastrium, together with leeching and blistering, the expectant treatment, in the primary stages, was very much followed."

Westmeath.—The reports from this county agree as to the benefits derived from a stimulant plan of treatment in the late epidemic; as regards the administration of medicines an ex-

pectant system seems to have been adopted. Wine and other stimulants, strong broth, &c., were freely given; bleeding, either general or local, was rarely resorted to; mercury was merely given as an alterative, or, combined with opium, to arrest diarrhœa or dysentery. "I used opium frequently, and sometimes with marked benefit, with and without wine; extreme restlessness and nervousness, subsultus tendinum, &c., were the symptoms chiefly relieved by its use"(*a*).

Meath.—Here, as in most other districts, stimulants were freely employed in the late epidemic. Dr. Nicolls, of Navan, however, reports that he used them only sometimes, and that the treatment he found most serviceable consisted in mild aperients, diaphoretics, and the application of leeches. Wine was given in large quantities with the best effects; local bleeding was resorted to only in congestion of internal organs, especially when the head was engaged; but general bleeding does not seem to have been at all employed. Mercury was not used except as an alterative; and opium was given, when dysentery occurred, to allay cerebral excitement.

Longford.—Stimulants, especially wine, combined with nutriment, were found most successful in the treatment of the fever in this county. Some practitioners, as Drs. Daly and Harris, commenced the treatment by the use of mild cathartics and diaphoretics. General bleeding was not at all resorted to, and local in a very few cases where the head was engaged. Mercury was but little employed; Dr. Daly found its effects useful when symptoms of effusion became manifest. Opium was given with advantage "when delirium occurred early in the fever"(*b*), and when dysentery occurred.

Summary of Reports not comprised in the foregoing Details.

Dr. Connor has afforded us the following report of the Carlow Fever Hospital:

(*a*) Dr. Bewley. (*b*) Dr. Harris.

"The number of patients admitted during the year 1847 was 657, of whom twenty-five died.

"There have been more patients under treatment in the county of Carlow Fever Hospital during the last year (1848) than for any similar period: the number exceeded the sum of those admitted during the first seven years of its establishment, previous to my appointment (1836). The fever has been characterized by symptoms of great debility; in very many cases there were *severe hemorrhages*, in others dysenteric attacks: violent perspirations, not critical, were constantly observed. Measly eruptions (so fatal in 1837) and ink spots (so termed by the attendants) were common, as were swelled feet and general anasarca towards the period of convalescence. A jaundiced condition of the skin was frequent. At one period almost every patient was admitted with, or had tendency to dysentery, or other disease of the bowels, at times amounting to cholera; of these but few fatal cases occurred. The fever, though severe, in our hospital, and in the county generally, it is believed, has not been very fatal, following a law of epidemics of typhus, that, 'When an unusual number are attacked, the deaths, though numerically greater, are less per cent. than in seasons in which there are only the ordinary number of patients.' It may be said, indeed has been said, that 'the diffusion of the poison has the effect of rendering it less virulent.' There has been one symptom so very remarkable that I cannot avoid particularly noticing it,—the tendency to relapse after what is called the 'five-day fever.' The relapse occurred so often as to be the rule, and with such regularity that, in place of the fever being short, I consider it of the usual duration, with some days (three to seven) of almost perfect intermission or absence of feverish symptoms. In many cases more than one such relapse took place. The number of days each patient remained in hospital averaged twenty and a half, rather above the average of former years; of those that died, the average age of one-third was more than 60. Several deaths were from causes totally unconnected with typhus, but this occurs

in every similar institution to a certain extent. For the last two years the mortality has been little above $3\frac{1}{2}$ per cent."

Dr. Lalor of Kilkenny has afforded us the following information in addition to that given in his communication upon the same subject, published in our fifth volume:

"In reply to your queries which bear upon the antecedents of our late fever, both as an epidemic and as affecting individuals, or the causes which influenced its development, I beg to offer you the following information.

"Gastro-purpuric fever, which was the type prevalent here, commenced about the summer of 1845, and assumed the range of a wide-spread and virulent epidemic about October, 1846. The fever, previously prevalent from the summer of 1844 to the summer of 1845, had been of the simple gastric form. In 1844–5 small-pox also had been more common than usual, and had been very fatal in our filthy and ill-ventilated lanes and houses, and amongst the ill-fed and sickly children of the most destitute of our people. Our old endemic, fourteen-day maculated typhus, had diminished greatly in frequency, both absolutely and comparatively to other febrile diseases, from the time that gastric fever had become prevalent; and this relative infrequency of typhus fever has continued up to the present time, through the years 1844–5–6–7, although the actual number of cases of this disease was, perhaps, as great from the autumn of 1846 to the autumn of 1847 as in any year from 1838 to 1844. The distemper has been very prevalent amongst cattle in this neighbourhood during latter years, but I cannot state the dates or ranges of its invasion. In the year 1843 I examined some cows that had died of this disease, and I found extensive and intense inflammation of all the tissues of the lungs, which was evidenced by enormous effusions of lymph and pus into the cavities of the pleura, grey and red hepatization of the parenchyma, and plastic sputa in the bronchial tubes. In one case pus exuded from the parenchyma and veins of the liver when cut into. During our epidemic, I believe that the num-

ber of cases of fever was generally in proportion to the denseness of the population, circumstances being alike as to the condition of the people in respect of destitution, want of cleanliness and of ventilation, assembling in crowds, and the various other collateral influences.

"The character of our fever was the same for a year previous and for a year after the failure of the potato crop in 1845, with the exception of the eruption of purple spots, which became superadded just before the time this failure began to manifest itself. This eruption, therefore, and its accompanying symptoms or sequelæ, are the only phenomena which can be attributed to the general change of diet amongst our people, consequent on the failure of the potato crop. But I am not disposed to think that the eruption was in any instance directly produced by any change, or by any description of diet, notwithstanding that the suspicious concurrence of both facts appears to place them in the relation of cause and effect; and I am inclined to believe rather that both had a common cause, probably some atmospheric influence. According to my observation, the purple eruption became connected with the reigning gastric fever somewhat before the time when the leaves of the potatoes first showed symptoms of disease, and of course still longer before the diseased tubers, or any substitute for them, had come into use. The eruption appeared sometimes, though not generally, in the cases of persons who had eaten no diseased potatoes, and who had made no alteration in their diet. Both these facts are contradictory to the supposition that the purple eruption was the specific result of diseased potatoes, or of any particular article or change of diet. That diet, however, exerted some influence over the type of fever appears probable, from the fact that the larger proportion of those attacked with fever, amongst the more comfortable classes, exhibited the fourteen-day maculated form, whilst a very large majority of the poorer and worse-fed showed the gastric and gastro-purpuric type. I will relate a

few cases illustrative of this strange fact before I shall attempt to speculate on its cause.

" 1. Of the vast number of the pauper inmates of the work-house who were attacked with fever, I would say that at least nineteen-twentieths presented the gastric or gastro-purpuric form; whilst out of four of the officers whom I attended, viz., the master, the clerk, the assistant school-mistress, and the assistant school-master, three showed fourteen-day maculated typhus. The assistant-master, the only one of these officers who presented the gastro-purpuric type, was in very straitened circumstances, from having a very large family, and from embarrassments entailed previous to his appointment.

" 2. Shortly after a portion of the House of Correction had been taken by the board of guardians as a supplementary work-house, and occupied by paupers transferred from the work-house, fever appeared amongst these paupers, and continued to prevail whilst they remained in the institution. All the cases which occurred were of the gastric and gastro-purpuric form; and the prisoners, who occupied another portion of the building, under the same roof, but consisting of separate apartments, remained during the whole time free from fever of any form. The superintendent of the house and his wife, who had charge of the paupers as well as of the prisoners, were both seized with fever some weeks after the admission of the paupers, and within a day, the one after the other. Under the circumstances, I think that there can be no doubt that they both took fever from the paupers; but in the superintendent and his wife fourteen-day maculated typhus was developed; their servant maid, a healthy, well-fed girl, about twenty years of age, was subsequently attacked, and her fever was of the gastro-purpuric form.

" 3. In March and April, 1843, I attended a farmer in very comfortable circumstances, during an attack of maculated typhus fever, which, commencing moderately, ran through the usual course. A diffuse measly eruption (which disappeared on pressure) appeared about the fifth day, without any remission of

the symptoms, and continued until the termination of the fever, when it disappeared; about the seventh or eighth day the pulse became rapid, small, and shabby; the tongue dry, brown, and crisped; the teeth and gums coated with sordes; low delirium set in; and the countenance and position concurred with the other symptoms in indicating the usual typhoid prostration and debility, and calling for support and stimulation, until about the eleventh day, when some abatement of the symptoms took place, and my patient improved gradually from that time until the fourteenth day, when he was convalescent, and did not afterwards relapse. Some short time afterwards the servant-maid of this farmer, a fine-looking girl, aged about 24, and, previous to her illness, the picture of rural health, was sent into hospital in fever, which exhibited in its course a perfect specimen of the gastro-purpuric type. Sudden in its invasion, it was quickly followed by a rapid thrilly pulse, very hot skin, thick creamy coating of tongue, restlessness, but no delirium; great thirst and irritability of stomach. Her fever terminated critically and rapidly in the course of a single night, after about seven days' duration. A scanty eruption of purple ecchymosed spots, persistent on pressure, circular, and about the circumference of a split pea, came out with the remission of the symptoms, and the falling of the pulse to 70 in the minute. After remaining convalescent for about eight days, she was again attacked with feverish symptoms, and went through a second fever of about the same duration, and characterized chiefly by severe general pains, and a sense of soreness over the body and in the joints, and by green vomit, but without the appearance of any eruption.

" The only essential point of difference, in the examples instanced, between the parties attacked with gastro-purpuric fever on the one hand, and with fourteen-day maculated typhus on the other, consisted in the habitual use during health of animal food by the latter, and of a diet chiefly farinaceous or vegetable by the former. All had abundance of food, and

the advantages of age, and bodily health and strength, were sometimes with the one party, sometimes with the other; the contagion was at one time that from a typhus patient producing gastro-purpuric fever, and at another time *vice versâ*. Hence I would conclude that, whilst our epidemic fever had for its origin some atmospheric influence, it was propagated also by contagion; and that the contagious or atmospheric influence was so far modified by the previous diet of the persons attacked, that fourteen-day maculated typhus was developed in general, in those habitually using animal food, and gastric or gastro-purpuric fever in those living chiefly on farinaceous or vegetable diet. The observations I have made as to the use of such innutrious articles of diet as turnips, the roots and leaves of various vegetables, thin soups, &c., have led me to infer that, in proportion as they were deficient in nutritive qualities, they contributed to render those who habitually used them more susceptible of the febrile poison, whether produced by atmospheric influence or by contagion, but that they never directly or *per se* produced typhus, gastric, or gastro-purpuric fever.

" My observations likewise have led me to set down the influence of deficiency in the quantity of food in the development of fever, as the same with that of deficiency in its nutritive qualities. I have seen many persons reduced to an extreme state of debility, from the actual want of food of any description, who exhibited no symptoms of typhus or gastro-purpuric fever. And those fevers are not developed in lunatics and others who, voluntarily or involuntarily, are starved to death.

" Other influential agents in the propagation and modification of fever have been foul air, want of ventilation and cleanliness, overcrowding, the assembling of the people in masses, vagrancy, and wet and cold weather. I have repeatedly observed a very marked increase in the number of admissions, bad cases, and deaths, during or after a few wet, cold days; and a few days of open, dry weather produced opposite results. From an early observation of this fact, I ventured, about the

month of March, 1847, to express my conviction, contrary to the almost universal opinion, on an inquiry before the board of guardians, that our epidemic would decline from the commencement of fine spring and summer weather, an opinion which was fully substantiated by a very marked and gradually increasing diminution, both in the frequency and virulence of fever, from the month of May onwards through June, July, August, and September.

"Gastric and gastro-purpuric fever were more frequent amongst females than amongst males; and amongst those under and over the middle period of life, or that extending from 15 to 40, than amongst those in this latter period. Some of the very worst forms of gastro-purpuric fever occurred in the two extremes of bodily condition, viz., in the very fat and the very emaciated. Those with dingy, dry, rough skins, and with lank, scanty, and erect hair, indicative of very imperfect nutrition, generally exhibited an extremely bad type of gastro-purpuric fever, and consecutive diarrhœa. Dysentery and diarrhœa were very prevalent during the winter of 1846–7, particularly among the frequenters of the soup-kitchens, and of course they frequently preceded fever. This precession appeared to me to be sometimes merely accidental, and unconnected with the subsequent fever, at other times as ancillary to the development of the febrile poison by lowering the constitutional powers; and at other times the diarrhœa and dysentery ran their own course, with accompanying febrile symptoms very like those of the prevailing fever, and like it they terminated critically. I have never known scurvy or purpura to precede the first attack of fever; but invariably, according to my observation, the purpuric eruption was preceded by gastric fever, or occurred as a complication of typhus, variola, or measles. This latter occcurrence I have seen very rarely, and for the first time subsequent to writing my observations on fever already published in this Journal.

"I have often reflected and inquired with myself, was

there any particular state of body which favoured the development of that particular type of fever which characterized our late epidemic, viz., the gastro-purpuric? and, on generalizing the facts within my knowledge, with a view to solving this question, I have been forcibly struck by the light which appears to be thrown on it by the following results of various analyses of the blood, taken from M. Lecanu's Essay.

"According to Lecanu, the proportion of water is greater, and the proportion of globules less, in woman than in man; in the lymphatic than in the sanguine; in infants and in old people than in adults; in individuals badly or little nourished than in well-fed individuals.

"According to M. Denis, the proportion of serum is greater, and the proportion of globules less, in the two extremes of age than in middle life; and, according to MM. Prevost and Dumas, in herbiverous than in carnivorous animals(*a*).

"The ages, the sexes, the classes of society, and the habits of body amongst which this peculiar type of gastro-purpuric fever, which characterized our late epidemic, was most prevalent and most exquisite, corresponded—may I not say?—precisely with those in which it would appear from the results of the analyses of the celebrated chemists already quoted, that the serum was in larger proportion in their blood than the globules; and I know of no other common point of agreement between them all.

"Again, the classes of society, the ages, the sexes, and the habits of body, amongst which gastro-purpuric fever was least prevalent and worst marked, were those which, according to the same authorities, had a larger proportion of globules and a less proportion of serum in their blood, and which all concur in no other point of agreement that I am aware of. From the

(*a*) See also Mr. Sullivan's Report on the Progress of Chemistry in our last volume.

best consideration that I could give the subject, I have been led to conclude:—

" 1st. That that state of body, by whatever cause produced, in which the proportion of the serum of the blood is greater, and the proportion of globules is less, is favourable to the development of gastro-purpuric fever.

" 2ndly. That there is no other state of body common to all the classes most susceptible of gastro-purpuric fever.

" 3rdly. And therefore, that this disproportion between the amount of serum and globules in the blood is the remote or predisposing cause of the above fever.

" 4thly. That that state of body, by whatever cause produced, in which the proportion of globules is greater, and the proportion of serum less, is unfavourable to the development of gastro-purpuric fever.

" 5thly. That there is no other state of body common to all the classes least susceptible of this fever."

Dr. Stirling, of Thomastown, county of Kilkenny, writes, that fever visited his district in March, 1847, in two forms:— 1st. From six to twelve days, attended with severe rheumatic pains, lasting about a week, then a rigor, with re-appearance of symptoms, generally much milder than the first attack; sometimes the first attack mild and relapse fatal. 2nd. Typhus, extreme prostration, dark petechiæ, jaundice, diarrhœa, or dysentery. He never employed local or general bleeding.

From Dr. Thomas Woods, of Parsonstown, King's County, we learn " that fever assumed the shape of an epidemic in Aghamon in June, 1847, but, although many cases occurred, the disease was generally mild. Dysentery and diarrhœa were prevalent at the same time, but seldom as complications of fever. The people of the district were in great want, and almost all suffered from debility, the result of semi-starvation. The type of the fever was ' simple continued,' except in three or four cases, which presented all the appearances and ran the usual course of

'typhus.' In the simple continued form the cases were generally complicated with bronchitic symptoms, and a few with diarrhœa, which, however, did not prove troublesome. In the cases of typhus the head was more engaged than any other organ, as was evidenced by the early appearance of delirium followed by *stupor;* in fact, the usual stages of bad typhus fever were passed through with very little difference from what is commonly observed.

"In the simple cases of fever I treated, in fact I did little more than leave them to themselves. If any particular symptom, such as bronchitis, diarrhœa, &c., occurred, I acted accordingly; if such did not take place, I gave an aperient, and watched that nothing went wrong. In the cases of typhus, where the head was chiefly engaged,—and in these cases only did I perceive petechiæ,—I had the head shaved, leeched, and subjected to cold applications; I gave calomel, two grains every third hour, and tartar emetic, one-eighth of a grain, at like intervals. These means, with turpentine enemas and blisters to the back of the neck, with chicken-broth or beef-tea throughout, from the commencement of the attack, were the general remedies I employed until a crisis occurred. The crisis, which seemed better marked the more formidable the illness, took place usually on the fifteenth day. After the crisis I gave wine in small quantities, stimulant mixtures (chiefly ammonia), and afterwards tonics, always keeping up a good supply of nutriment. Convalescence was not long, and relapses not frequent. Except in two cases I did not see any bleeding from the nose. In these cases I think it resulted more from congestion than debility. I did not perceive any tendency to *scurvy* in the fever patients.

"The hospital was open during three months; it contained only twelve beds, but these were always full. It was situated on very high ground, and the patients were taken from the same locality. There was not one death in the hospital during the time it remained open, which I attribute to plenty of room and

fresh air; nevertheless the symptoms in some of the cases were very aggravated.

"I do not remember any other information I could send with respect to the fever occurring in my district at that time, but a circumstance happened there lately to which I would like to direct your attention. On the night of the eighth of this month (November, 1848), an aurora borealis appeared with great brilliancy on the high grounds comprising part of the district of Aghamon. Through one of the small houses situated on nearly the loftiest part of the range of hills, a tremulous but bright light flickered for a few seconds; the light was sufficiently strong to pain the eyes, but unaccompanied by any smell or other phenomenon. On the following day, seven persons, out of nine who resided in the house, were attacked by fever; the seven were young men and women: the father and mother escaped. The attack commenced with the usual symptoms of fever, but became speedily very severe in two of the cases, so much so as to prevent their being removed to hospital: in the other five the symptoms of common continued fever ran the usual course. Of the two who remained at home, one died on the ninth day; the other is recovering, having had marked crisis on the eleventh day. Both (a boy and girl, aged 18 and 20) exhibited all the appearances of low typhus fever; maculæ showed themselves on the third day. The head was much engaged, semi-stupid muttering delirium being present. In the boy's case, which terminated fatally, the delirium was accompanied by constant laughing. All are now recovering except the boy.

"The foregoing is, I think, worthy of notice, as being an instance showing clearly the connexion between atmospheric or electrical phenomena and the production of disease.

"Fever is not now prevalent in the neighbourhood.

"In 1847, when fever was prevalent, many cattle died of their peculiar epidemic."

From Tullamore, King's County, Dr. Ridley has given us the following answers to our inquiries :

" From the low situation of this town, being nearly surrounded by bog and marshes, the total neglect of the removal of nuisances from its numerous small lanes, the great number of its poor, and other causes, there is always existing a vast amount of fever for the extent of its population. Since the failure of the people's principal food, the disease has increased very much, and has assumed a more malignant and intractable form. The above causes, however, have had a less influencing effect on the peculiar epidemic which is the subject of this report than might be supposed. This, which, with great truth, is styled ' the *relapse* fever of 1847,' differed from every other form which appeared here; its great suddenness of seizure, its violence, its short duration, the frequency of relapse, its quick subsidence, and the sudden restoration to health, were symptoms of a new and extraordinary nature, added to which were the universality of its seizure, and the trifling amount of mortality attending it.

" It appeared here in the month of May, 1847, and lasted until February, 1848; it was most violent and universal in the months of August and November. It attacked principally the poor, but the rich, and those who lacked not the necessaries or comforts of life, were not exempt from it. The mere want of food did not appear the most predisposing cause, but the *want of clothing* of a warm sort. Chills, from suppressed perspiration, were the most common cause in rich and poor. In this way it differed from the other fevers of the country, in which a low impoverished state of the system predisposes so much to their invasion. *It did not appear to be contagious*, nor did age or sex appear to have any influence. I have seen the very old, and infants on the breast, go through its stages successively. The symptoms in rich and poor were much alike; probably in the former there was a greater tendency to cerebral complication, and in the poor the sequelæ were of a more formidable nature.

"Upon its first seizure, headach, nausea, pain of back and limbs, *great prostration*, rigors succeeded by thrills of cold alternately with heat, thirst, full bounding pulse, intense heat of skin, white, creamy tongue, delirium, were most like the symptoms ushering in an eruptive disease. These symptoms continued with more or less severity until the sixth or seventh day, when profuse diaphoresis (in some cases to an almost incredible extent) terminated the attack. The skin then became cool, pulse fell, appetite and sleep returned, and all feelings of malaise ceased; a desire to rise from the bed was often acquiesced in, and the patient walked about in apparent convalescence for four or five days, when headach, rigors, nausea, and lassitude set in, and the whole train of symptoms of the primary attack followed. These ran their course also to about the same period, and terminated in like manner by a sweating crisis. The latter was sometimes followed by a profuse diarrhœa, which, in the ill-fed poor, often ran into dysentery or low typhus. When organic complications occurred, it was almost always during the second fever. These were, during the summer months, of a gastro-enteric form, and as the year advanced the pulmonary organs were mostly engaged. I *have never noticed any morbid condition of the spleen*, though, from the intermittent nature of the disease, my attention was directed to the state of that organ. A few cases of endocarditis were the only affections of the heart I observed. Petechiæ were not usually an attendant on the disease. They never appeared in the first attack, and, whenever seen in the second fever, were premonitory of some serious organic complication. I have not observed purpuric spots in any of my cases. As few cases occurred not followed by relapse, it may be fairly looked on as a necessary and characteristic part of the disease, which no care or treatment could prevent. During the latter months of the existence of this epidemic, petechiæ, continued fever, and low typhus, were also prevalent. The following distinctive characters of the relapse fever I may again enumerate, viz.:—seizure more sudden, with

immediate prostration; peculiarly violent nature of the fever, the circulation being in a state of high excitement; the rarity of organs being more than functionally disturbed during first fever; the occurrence of the sweating crisis on fifth or sixth day; the intensity of that sweating crisis; the quick cooling down of system, and subsidence of fever; the speedy convalescence; the second fever or relapse occurring from the fourth to the twelfth day; the second fever being nearly similar to the first; the subsidence of the second fever, with quick convalescence and return to health.

"In all these symptoms it differed widely from the ordinary fevers of the country, but in no one so much as the small amount of mortality. I am unable to give an accurate statement of the proportion of cases to extent of population; there was scarcely a house amongst the poorer class unvisited by it.

"The usual sequelæ were dysentery, anasarca, phthisis, rheumatism, paralysis, and deafness. The treatment was moderately antiphlogistic, seldom venesection; purgatives, diaphoretics, and local depletions, were the usual means resorted to in the first fever. The relapse was often attempted to be warded off by the employment of smart emetics, purgatives of an active nature, &c., &c., but nothing seemed to have any effect in its prevention. Wine was never used except where it ran into low typhus; mercury only in local inflammatory complications; and opium chiefly to control excessive diarrhœa.

Dr. Swan, of Abbeyleix, Queen's County, says:

"The famine fever appeared here about 1st September, 1846. For eighteen months previously fever, both typhus and common continued, had been gradually becoming more prevalent; but in the autumn and winter of 1846 we were overwhelmed with a fever, attacking in the first instance the poor, the dirty, and the starved, but capable of being propagated by contagion to the comfortable and strong.

"Amongst the very poor the principal symptoms were those of debility. Pulse weak, 80 to 100; tongue dry, often

glazed; skin dry and dirty looking; appetite often very keen; patients in hospital for some days, in several instances, eating a moderate meal voraciously, and dying in a few minutes after: as the nurse said, 'the hunger was in their hearts.' Vomiting not common, but diarrhœa very; seldom delirium; in some cases purpura, others scurvy, and again in others gangrene of extremities and terrible sloughing from pressure, the sacrum and occipital bone being laid bare in several cases. The disease was most prevalent among males, and exhibited a great tendency to relapse; in some cases the fever being lighted up three or four times. The primary fever generally subsided on the eleventh or fourteenth day, and then, after a period of from three to ten days, the relapse came on, lasting, for the most part, for a few days only. The type of the fever, as it appeared in different members of the same family, was sometimes very different, sometimes exactly similar. Epistaxis was common, occurring at all stages, but I think most usually about the fourth day; a common form of crisis was a severe rigor followed by profuse sweating. The most common sequelæ were œdema of the legs, chronic diarrhœa, and in some instances phthisis. As to treatment:—saline diaphoretics, sometimes carbonate of ammonia; blisters to the epigastrium when vomiting was present; acetate of lead and opium, chalk mixture, and vegetable astringents, nitrate of silver and extract of gentian, when there was diarrhœa; and hydrargyrum cum cretâ and Dover's Powder in dysentery. I never used bleeding, either local or general, nor mercury, except for complications, pneumonia, dysentery, &c. Opiate enemata were given occcasionally in the latter stages, where there was much restlessness, and with good effect. The chief reliance, however, was on diet. Beef-tea, arrow-root, rice, punch, wine, and eggs, were given, cautiously at first, and liberally increased as the patient seemed to bear them."

Report of fever from the Coolock and Santry dispensary, county of Dublin, by Dr. Darley:

"The following table shows the number of cases of fever, un-

der the several heads, which occurred in the Coolock dispensary for the last seven years. I did not till the last year place typhus fever under a distinct head; it was comparatively rare, and any such cases that occurred were placed under that of continued fever. Our district has been always comparatively free from want and famine, but in the last year the fever assumed a more than common virulence. Our medical year terminates at the end of May.

	1842.	1843.	1844.	1845.	1846.	1847.	1848.
Remittent,	19	7	5	17	5	11	14
Gastric, . .	6	7	4	5	25	19	23
Continued,	24	19	20	17	28	27	35
Typhus, .	. . .	. . .	. . .	. . .	. . .	. . .	29
Total, . . .	49	33	29	39	58	57	101
Influenza, .	95	27	77	64	23	54	115

"From the above table it may be seen that fever has been much on the increase for the last three years, whilst in the last year it has nearly doubled that of either of the previous years. It may also be remarked that gastric fever has been much on the increase; for the last three years the average has been 22, whilst for the four previous years it was only 5½. We cannot help connecting this very striking increase of gastric fever, during the last three years, with bad food. Another disease which appears to hold a striking connexion with fever is influenza. I have, therefore, added to the table the number of cases, as taken from the reports, for the last seven years. It may be remembered how prevalent influenza was during and immediately preceding the severe visitation of fever in the years 1846–47. My district is a very favoured one; there is generally abundance of employment, and therefore comparatively little want; the late scarcity and famine has, however, been felt, and fever consequently has increased.

"One of the first cases I met with was in a female, the mother of three or four children. When I first saw her I was struck with the great depression and collapse manifest about her; her pulse was weak, and there were many small purple spots on various parts of her body; there was no hemorrhage. She had been in much want, her husband having been to England in search of work. He had come home before his wife was taken ill, and told me that he had not long recovered from a spotted fever which he had whilst in England, the effects of which were still manifest in his appearance. How far this case may favour contagion I do not say. This woman was sent to hospital, and died there; two of her children had fever of a similar type, with a few purpuric spots; they recovered. The next case was that of a boy fourteen years old, who had a smart attack of fever, with a few purple spots; it was accompanied by bowel complaint. He recovered quickly, but it went through three or four of the family, and also one or two families in the same row of houses; they all recovered, except one female, the mother of a family. In another direction four out of a family of six took fever; they were in rather comfortable circumstances; they had plenty of wine and nourishment, and all recovered. Most of these cases were covered with petechiæ, with a shabby pulse and much delirium. One lad of 17 had a very bad abscess of the parotid gland. I did not remark, that when fever occurred in any one part of the district, it spread from this point, but rather that it pounced upon various parts of the district, one after the other. Relapses were very common; generally caused by making too free, or going out too soon after convalescence. I have not seen petechiæ in relapsed cases; affections of the bowels have been very common, but not amounting to dysentery. I think the very young and the old have not been so liable to the fever; and perhaps more males than females have been attacked. I have had few opportunities of making *post mortem* examinations. In one particular instance I remarked the cavities of the heart filled with fluid blood, and

the walls so friable that the finger easily went through both auricles and ventricles. I did not remark any other particular heart affection, or any enlargement of the spleen; retention of urine sometimes occurred, chiefly in the upper classes; fever in the upper and lower classes differed much in severity, the former collapsing much sooner, and requiring a far greater amount of stimulants than the latter, and attended with more derangement of the sensorium. One case sank after seven days' illness, the pulse intermitting on the fourth day. An accurate critical termination has not been very common. Frequently about the fourteenth day the symptoms appeared to get milder. Sleep was sometimes the first favourable symptom; in some cases a manifest exacerbation has appeared to precede a crisis; local hemorrhages have not been common, nor have I had many cases of bed-sores. One case had numerous boils over the body, and this individual had superficial sores on the sacrum and back, which, however, were easily managed. These latter, boils, abscesses, and local pains, have been the most common sequelæ of local fever.

"Amongst the lower classes convalescence has not been tedious; from two to four weeks may be about the time. I think the character of the fever has been generally similar in members of the same family; it is generally worse in males than females; head symptoms those that chiefly predominate; the mortality has been more, in proportion, among the upper than the lower classes. I have not had many in the former. Of two bad cases, one died, the other recovered. In the lower class there were three deaths in twenty-nine cases of typhus fever. I had no deaths under the other heads; but in my district I have seen no cases of the famine fever which has prevailed in other parts of Ireland.

"The treatment has been, in the commencement, purgatives, where the fever did not begin with bowel complaint, as was sometimes the case; if so, the powder I generally give is the compound powder of chalk with opium.

" When the bowels are acted on I never repeat purgatives, unless by enemata. I use a mixture of sweet spirits of nitre, water of acetate of ammonia, and aromatic spirit of ammonia. Local symptoms were treated as they arose, or engaged the head, chest, or abdomen. The first, being more frequently affected, was shaved and blistered; I occasionally leeched, but never bled from the arm; wine and stimulants were generally used; I never gave mercury unless local inflammation was present, or as a purgative. I think highly of opium, when used with discretion, at all stages. Perhaps the eye is the best indication when it will be allowable. I have often been surprised how little treatment is required in certain cases, chiefly in those cases which may be called *sleeping fevers;* it is also striking what a small quantity of wine tells on the lower classes in fever. We have had for some years back the peculiar epidemic prevalent amongst cattle in this district to a considerable extent."

The history and character of the epidemic fever of 1847, as it appeared in the city of Dublin, is well described in the following valuable report from Dr. Henry Kennedy:

" The field afforded me for observations on the leading features of the late epidemic, as it appeared in this city, was very great; so much so, that, having no assistance, I was quite unable to avail myself of it, at least for many of the ends of science. I saw the sickness not only in hospital, but also amongst the poor at their own houses, in cellars and garrets. During rather more than half the period, the patients under my care were located in tents, which had boarded floors, but no fire-places; the remainder of the time they were in sheds, constructed after the best models.

" Into the difficult question of the cause or causes of the epidemic, it is not my purpose to enter here, farther than to state that nothing transpired, as far as I am aware, which could throw light on the permanent cause. That it was not famine I take to be certain, unless, indeed, it be allowed that want existed in England and in Scotland in an equal degree

with this country; for fever, in the epidemic form, prevailed in London, and in other parts of England, and in Scotland too, at the very least, as early as we had it here. Such is the result of a good deal of inquiry into this point. It is also worthy of remark, that fever prevailed in London in November, 1848, far above the averages, though with us here in Dublin it had for some months previously nearly ceased. Notwithstanding all this, our friends on the other side of the Channel seem most willing to give us the entire credit of generating the late epidemic; and this feeling will most probably continue till more comprehensive views on the matter become diffused(*a*).

"The epidemic fever may be said to have begun in Dublin with the year 1847, possibly a week or two before this. My own appointment bears date the 14th of January in that year. If, however, the attendant dysentery be considered a part of this epidemic, it had begun earlier. The latter, as is well known, had broken out in the South Union Workhouse in

(*a*) "From the data afforded by the portions of this report already published, it is obvious that the fever did not become generally epidemic in Ireland till the beginning of 1847. The following extracts are taken from the numbers of the Medical Gazette for October, November, and December, 1846, and show how prevalent fever was in London at that period:—'The deaths from typhus fever have considerably increased, and the mortality is now double the average.' 'The most fatal and prevalent disease at present is typhus fever.' 'Typhus fever is still very fatal.' 'Typhus fever is the disease which is now most prevalent and fatal.' 'Typhus is still very prevalent and fatal.' And so it went on in London till March, 1847. Again, in the Edinburgh Medical and Surgical Journal for October, 1848, the following sentences, written by Dr. Paterson, of Glasgow, occur:—'In Glasgow the first noted increase of the disease (fever) was in autumn, 1846.' And again:—'As might have been expected, this amount of accommodation was found, even before the close of 1846, to be insufficient.'

"With such facts and admissions before us, it appears to me that we might, with fully as much justice, accuse our English or Scotch neighbours of being the originators of the epidemic; and, while doing so, remind them at the same time how much we are indebted to them for the cholera. The Register-General's quarterly report, ending December, 31, 1848, states that typhus fever has been very prevalent in several districts of England."

November, 1846, even before there was any change of diet, and when there was no general want abroad.

" The contagious nature of the disease was shown in every way in which such could be exhibited. Once it had begun in a family, it spread from member to member with the greatest certainty. There is the valuable, though melancholy record, published by Drs. Cusack and Stokes, bearing on this point.

" The epidemic may be said to have existed as such chiefly amongst the poor; for although a very considerable number of the middle classes were attacked, it could scarcely be said to constitute an epidemic amongst them. Wherever misery, in its widest sense, existed, but, above all, where overcrowding took place, there the fever prevailed. Amongst the poor it very constantly attacked the youngest members of the family first, then the girls and women, and lastly the men. The exceptions to this were very few.

" Of the extent of the epidemic in Dublin it would not be easy to give any very correct idea. The hospital accommodation of the city amounted to about 2500 beds: a greater amount, by 1000, I believe, than were opened in any previous epidemic. It may give some idea of the vast amount of sickness to state that, at the Cork-street Hospital, nearly 12,000 cases applied during a period of about ten months. At one period there were upwards of 400 outstanding tickets; and as many as eighty applications for admission have been made in one day. Still it may be safely stated that all this would give a very imperfect idea of the real amount; for all who had to go amongst the poor at their own houses were well aware that vast numbers remained there, who either could not be accommodated in hospital, or who never thought of applying. It was quite common to find three, four, and even five ill, in a house, where application had been made but for one. I think the very lowest estimate which could be arrived at cannot make the numbers who sickened in Dublin short of 40,000. The greatest pressure on the hospital took place in the month

of June(*a*), from which time the fever gradually declined, till the month of February, 1848, when the epidemic may be said to have ceased. Like other epidemics, this was preceded by serious disease amongst cattle, especially horses and cows. The former were the first to suffer from what, I rather think, was of the nature of severe influenza; but of this I do not speak positively. The latter were still more severely attacked, and very serious losses were incurred, by the number that died over the entire country. This sickness I took some pains to investigate, and found that it essentially consisted in a very bad form of pleuro-pneumonia; not the disease as met with in the human subject, where either the pleuritis or the pneumonia so generally takes the lead, but literally both diseases co-existing, and to a great extent; the quantity of lymph poured out, especially into the lung, being very considerable. This disease often became chronic, in which case tubercles were formed; and in one very remarkable specimen, for which I was indebted to my friend Dr. Faussett, of Clontarf, I was able to trace the tubercles not only through all their stages of growth, but literally growing from the inner surface of the pulmonary veins(*b*).

"At the time the epidemic commenced, the people had but too generally been suffering from the effects of want, and this predisposed them to take the fever wherever they happened to come in contact with it. I say wherever they came in contact with it; for it is well worthy of remark, that a considerable number of cases came under my notice, of persons who were starving, and who yet had no fever on them. They were emaciated, very weak, and had an appearance about the eyes

(*a*) "The same fact was observed in Edinburgh; and I need scarcely add that this is not the first instance in which an epidemic has reached its height upon the same month, occasionally the same day, in places very distant from each other."

(*b*) "It may be observed that physical examination of the chest in these cases enabled me to state positively where mischief was going on, and where not."

which seemed to me to be characteristic of want. But they had no fever on them. Bad, however, as the state of the people was from want, there were still some compensating advantages, for the fever itself was of an unusually mild character; in fact it bore an inverse ratio to the amount of starvation which had preceded it; and this may, I believe, be stated generally, not only of the late, but of preceding epidemics: and I may mention that I saw many pass through the fever while they were literally walking about.

"Starvation, in fact, is, or at least seems to be, within certain bounds, an excellent preparation for the onset of epidemic fever. It will be readily inferred, then, what the difference was in character between cases where want had preceded and where there was none. The former were almost universally mild and easily managed, while the latter were as commonly heavy, and frequently presented complications difficult to treat. The mortality of the latter was much the highest.

"The mortality in the Cork-street hospital, for the year 1847, was one in twelve and a fraction; this includes every case admitted. The greatest number of deaths, by many degrees, occurred in the month of March, when dysentery prevailed so generally, and when many were admitted only to die. The average of this month was one in eight; while that of the month of June, when the pressure was the greatest, only amounted to one in seventeen.

"The average mortality of this hospital, from its foundation in May, 1804, to the present time, and including 154,641 cases, has been one in fourteen and a fraction.

"This fever has been well called a relapsing fever; that is, it was made up of two parts, crisis being very generally present at the termination of each. It was the same form of disease which prevailed in several of our previous epidemics, and has been so ably described by Drs. Rutty, O'Brien, Barker and Cheyne, and others. It was the same type of fever which seems

also to have prevailed in Scotland at the same period. The symptoms were—headach; rigor; furred tongue; sickness of stomach, sometimes amounting to vomiting; quickened pulse; hot skin; pains in the limbs, especially complained of by females: all of these presenting the irregularities which every epidemic is known to do. After these had continued for a variable period, usually, however, between five and nine days, the first crisis occurred; and this was commonly by perspiration, which lasted from four to twenty-four hours. According as it seemed perfect or not, in the same degree was the remission. At times the patient would say he was well, that he had got the cool, and would ask for food; or again, that he was much better than the day before, but still weak. The duration of this interval of ease was most uncertain. In some it could scarcely be said to last a day, when headach, or rigor, or vomiting, more particularly if any food had been taken, recurred, and then the relapse began. In others, from two to five, or even seven days intervened before the relapse set in. During this period they were, many of them, out of bed, using food; and frequently, owing to the great pressure on the hospital accommodation, transferred to the convalescent house, which, in this establishment, is quite separate from the other buildings. In others, again, so long an interval occurred, and they appeared so well, that they were actually dismissed from hospital, but only to be re-admitted at the end of fifteen or twenty days. In a very small number no relapse whatever took place, even when crisis occurred as early as the seventh day.

" In my experience the second, or relapsed fever, was almost constantly the heaviest.

" The relapses, it appeared to me at first, were brought on by using food too soon; and indeed the cry out for food surpassed what any one who had not seen it, would have any idea of. Even during the existence of fever it was not uncommon to hear patients asking for food; and when once a change for the better took place, nothing could keep them from it. I soon

found, however, that, even with the greatest care, relapses occurred; that in fact the disease was not ended by the first crisis. Hence I did not hesitate, once the patient appeared at all fit for it, to allow food; the relapse, by this means, was, I believe, hurried, and time was, in the long run, saved. If the two periods of the fever were joined they usually made up from fifteen to twenty days. In several cases relapse occurred a second time; and I saw it twice take place a third time. One man, on being told that his wife was dead, relapsed on the moment. The following is probably worth noting. A child of two years old, labouring under measles, was admitted into hospital. The mother, who was in health, came with it. In a few days, while they were in the convalescent ward, both sickened, being attacked with fever. They were transferred back to the tents, where, after the ordinary time, they became convalescent, and were sent a second time to the convalescent house. The child now sickened a third time, when bad confluent small-pox made its appearance, under which it sank. There were no other cases of this disease in the house at the time.

" The relapsing fever varied somewhat in its characters as the year wore on, but more particularly towards the autumn. Jaundice was now of frequent occurrence as an attendant on the fever; though not to a very intense degree. With this there were more frequently signs of irritation, if not inflammation, affecting the stomach and duodenum; and it was now also that severe and protracted vomiting showed itself, and, in my experience, more frequently amongst women than men. In fact, the fever was more of the character of gastric than any other; and this, I need scarcely add, modified its general character much. It was now a more prolonged sickness, and the length to which a few of the cases ran on, without any crisis whatever, was very remarkable. I saw different cases last till the fifth week, with a red and pointed tongue, a rapid pulse, hot skin, and great thirst, attended, even at an advanced stage,

with occasional vomiting, particularly if the patient chanced at any time to take a large drink. In one case which I saw with Dr. Creighton on the forty-second day, the fever appeared still to be at its height(*a*). In none of this class of cases did I observe anything of the distinct crisis which marked the more common type of the fever. On the contrary, it subsided gradually from day to day. In the course of the summer, but more particularly when the weather was hot, epistaxis was of common occurrence. In a few cases it appeared to be critical, and in nearly all it relieved the head either of the feeling of lightness, which, at the time, was a very common complaint, or of headach.

"There was a fever of another type from any yet spoken of, which calls for some notice here. I mean typhus fever. But though speaking of it as a different type, I would not have it thought that it was in its nature different from what has been already alluded to. On the contrary, all my observation goes to support the idea that the relapsing fever and typhus fever are but part and parcel of the same disease. On no other principle can I explain the fact which repeatedly came under my notice, viz., that from the same room, amongst members of the same family, and often sleeping in the same bed, these two types of fever were to be seen. The same poison, in fact, generated both. They differed in intensity, and in the presence or absence of early crisis, but in nothing else that I could perceive. Any one who calls to mind the differences which often obtain in a family affected with scarlatina, will readily understand how a similar occurrence might take place in common fever, the poison all the time being essentially the same. In corroboration, too, of this view, I may state that I saw cases where the first part of the attack was of the character of relapsing fever, and the second of the typhoid type. I saw cases showing no eruption during the first attack of fever, but presenting

(*a*) "Hippocrates speaks of fevers occupying a much longer period than even this."

well-marked petechiæ in the relapse. Cases, too, were not uncommon where, without any early crisis, typhoid symptoms appeared suddenly about the tenth or eleventh day. For these reasons, then, I would not separate the two types of fever, but merely look upon them as different phases of the same disease.

" Cases of genuine typhus were, through the whole epidemic, very rare: I mean comparatively speaking. Occasional cases did occur, and these became more numerous with the advance of the season. I saw more cases amongst children and men than amongst females. This was the form of fever which was most fatal, particularly to men, as indeed it seems to have ever been. It did not occur amongst those who had been starved, but rather amongst those who, on admission, seemed to me to be in good condition. It was the disease which had petechiæ when they did appear, for as a whole they rarely presented themselves; and several cases of pure typhus came under notice, which had no eruption whatever. I saw several cases of well-marked petechiæ in children under seven years of age. The eruption itself presented nothing peculiar, being either of the measly character, or the dark brown genuine petechiæ. During the hot weather, and sometimes as the result of crisis, sudamina appeared. One case only of fever attended with purpura came under my notice. The patient was a boy of six years old, remarkably pale and exsanguine; he had no hemorrhage. His father was in hospital at the same time, but presented nothing peculiar; neither had he suffered from want of food. The most remarkable case, as far as regards eruption, which I saw during the epidemic, was in a man of about fifty-five years of age. He had fever on him, and, to all appearance, of a very mild character, and had been about one week ill. The curious point about him was the existence of two large bullæ, one over the left nipple, and the other over the region of the liver. The former was larger than a crown-piece, and was filled with a bloody serum; the other somewhat smaller; the cuticle of this one had been broken, leaving the

true skin of a dark reddish colour. Five or six very large petechiæ-like spots existed over the extremities. From having seen this man only once, I am unable to detail the progress of the case, except that he died within a week; and yet at the time he was seen by others, as well as myself, there was no single symptom, except the eruption be considered as such, which would have led any one to forebode such a result. A drawing of this case is in the possession of my friend, Dr. George Kennedy. The patient was under the care of Dr. O'Reardon.

"There were some complications attending the late epidemic, at which, however, in this paper I can only glance. The great and leading one was dysentery, which, as already stated, seemed to precede the fever in Dublin; though in some other epidemics it is well known to have succeeded it. This complication was the chief cause of the mortality of the fever, as it came under my notice, and during the first half of the year the number of deaths was very considerable. Epidemic dysentery is a serious disease in itself, but joined to fever it becomes a truly formidable affection, as indeed all who have written about it state. With the late fever it joined itself in every stage. I saw cases of dysentery, which had continued some days, suddenly put on all the signs of the worst fever, and so carry the patient off. Here the fever was added to the dysentery. In other cases again, and these by far the majority, fever existed, and then dysentery supervened; while in a third the patient would be convalescent from the fever before dysentery showed itself. No matter at what time, however, it appeared, it was a serious affection. It frequently happened that the discharges were only such as would indicate diarrhœa(*a*); but even this was quite sufficient to affect life, particularly in young persons. This particular subject would require a long essay. Some cases of great interest, where hemorrhage took

(*a*) "It may be observed that extensive ulceration of the intestines existed in many cases where the discharges were those of simple diarrhœa."

place from the bowels, but not complicated with dysentery, came under my notice. In only one instance did the fever so often seen in France come before me. The case ran on to the twenty-eighth day, and the particular lesion of the ileum was found to be very far advanced.

"Affections of the chest were another important complication of the late fever. In the spring several cases of pneumonia presented themselves, and some of the typhoid type. Two cases also of the rapid solidification described by Dr. Stokes, occurred; both of which died. One of these began at the top of the lung, and spread rapidly downwards. Bronchitis was a much more frequent complication than the last. It also, in many instances, rendered the fever most serious; and, advanced as the disease frequently was before admission into hospital, it often proved fatal. Two cases recovered after the acute attack had run into the stage of effusion, and when, to all appearance, the patients were lost. Recovery, under these circumstances, I believe to be very rare. The remedies used were of the most active kind.

"Twice during the year, in March and October, laryngitis became a complication of the fever; in some cases coming on before the fever had subsided, in others during convalescence, but before the patients had left their beds. It came on very suddenly, and in three cases proved fatal. It spread from the throat to the larynx. In none of the cases I saw, eight in number, did there appear to be anything to justify a resort to either mercury or tracheotomy. In the patients who recovered, the treatment consisted in the application of a small number of leeches, poultices, and caustic internally, with the use of wine, and fluid nourishment.

"Except in a very mild form, I saw no cases of scurvy complicating the fever; but in the earlier part of the year several instances occurred where the gums became scorbutic as the fever went on. Some of these patients suffered very much from this. One man in particular, named White, whose arm

had been removed from the shoulder-joint by the late Surgeon Houston, was of this kind. In some of these cases aphthæ of considerable size existed with this state of the gums.

"In one instance a man of 58 presented well-marked symptoms of what has been described as 'scorbutic dysentery;' that is scurvy and dysentery combined. He had large patches of livid discolorations on the lower limbs, and had suffered severely from preceding pains. Notwithstanding he was in a wretched condition, I ventured to give him grey powder, which very soon affected his mouth sharply. During this time he had several bleedings from the gums. All these circumstances made this man's recovery nearly a miracle.

"Several cases of what might be called local phlebitis came under my notice. By local, I mean the disease was so circumscribed that it did not, in its turn, contaminate the system. These attacks occurred chiefly during convalescence, though I saw some cases where the inflammation of the vein took place while fever was still on the patient. In these latter the fever always changed, so as to exhibit more of what would be called the irritative character. No case occurred in which sharp fever did not exist. The parts attacked were the veins above the elbow, the internal saphena below the knee, as it passes behind, but, more frequently than all, the veins close to Poupart's ligament. One man was attacked both in the arm and groin, and when he left hospital he had by no means fully recovered the use of either limb.

"One very interesting case of spinal arachnitis occurred in a young man of twenty years of age. After going on well for a week he relapsed, but ultimately recovered. I could not say he was out of danger till the twenty-fourth day. He was treated with a prolonged salivation, together with repeated local bleedings and blisters.

"An interesting case occurred in a boy of ten years of age. He was affected with petechial fever of the lowest type, requiring wine from the very onset. As he recovered from this state it was observed he made no attempt to speak; this was

not particularly attended to for some days, but still as the fever went off it did not improve. The boy had no loss of speech before this illness. He understood what was said to him perfectly, but shook his head when asked why he did not speak. Under these circumstances his head was blistered, and he was ordered mercury in small doses. Precisely as the mineral took effect, in the same degree did his powers of speaking return, and he was well within a month.

Some cases of erysipelas, of diffuse phlegmon, and of puerperal fever, occurred, but they did not present anything peculiar. In one instance morbus coxæ set in with very acute symptoms, immediately after the fever, in a girl eleven years of age.

"On the whole, the epidemic, as it came under my observation, did not present anything different from former epidemics; while some features which they had were very rarely present in this one, as, for instance, gangrene of the extremities and nose, which seems to have been common in 1826, and still more so in 1817–18(*a*).

"As to the treatment a few lines will suffice. The nature of the fever was such generally as to call for a stimulating treatment. Hence wine was very extensively used, though not very largely; that is, the quantity was not large. In numerous instances it was ordered from the time of admission, and very rarely indeed had it to be countermanded. The usual quantity was four ounces in the twenty-four hours. With wine was joined, a day or two later, some liquid food, such as beef-tea, sometimes with rice mixed through it. In fact very many cases were literally fed through the fever. When, however, any special organ became engaged, I never hesitated, weak though the patient might be, to order leeching and blisters to the amount that appeared to be requisite. In this manner it was a very common practice to prescribe wine and

(*a*) "My friend Dr. Moss tells me that he saw three cases where gangrene attacked the nose. Two of these proved fatal. All came from the same house."

antiphlogistics at the same moment, and, as I believe, with the best effects. General bleeding, I may say, was not had recourse to at all. As constituting part of the stimulating line of treatment, it may be mentioned, that I made very considerable use of the class of medicines known as tonics, such as colombo, gentian, and bark ; carrying out, in this way, the experience of the older writers on fever, and making frequent use, besides, of those medicines which went by the name of 'alexipharmics.' This part of the subject is one of great importance, and it may fairly be questioned whether the views of the able writers alluded to are not made too little use of at the present day, and this simply because they are old.

" Unless where there were special reasons to contra-indicate them, emetics of ipecacuanha were generally used when relapse occurred, and benefit very usually appeared to follow their use. Opium I frequently used, particularly in the form of Dover's Powder, of course attending to those points in its use with which every one is now familiar; and it generally agreed well. During the first day or two of the fever it was not used. There was a certain class of cases, which, as they went on, assumed more or less the characters of irritative fever. They had a rapid, weak pulse, considerable heat of skin, furred but moist tongue; complained much of want of sleep; and had a general restlessness over them. Their state, in fact, was precisely what is seen usually in the secondary fever of small-pox, and, I may add, of scarlatina, for it also often exhibits the same. In such cases, ten grains of the powder, three times a-day, proved most useful, and it also had the advantage of keeping the bowels in proper order ; for the tendency to be too free was very marked through the greater part of the epidemic, particularly in the cases alluded to. In two instances, where the brain was much engaged, decided benefit followed the use of tartar emetic and opium, as recommended by Dr. Graves(*a*).

(*a*) " Dr. Carroll of Waterford speaks of having used opium largely in this same epidemic. Dublin Quarterly Journal, p. 99. Feb. 1849."

" Mercury I seldom employed in this fever, and not for what may be called its specific effects. As an aperient, and where it seemed to be called for, calomel was given in three or four grain doses; but this was seldom, if ever, repeated. If, however, it was little used in the simple fever, it was most largely employed in some of the complications, as in the cases of pneumonia, but, above all, in the diarrhœa and dysentery which prevailed so widely. Here the effects of the medicine were magical, and approached nearer to what might be called a specific than any other example I could give. It must be observed too that the mercury succeeded when every other means that could be devised had utterly failed. This I know was the experience of others, as well as my own. Of course it was not the only medicine used, but it would be out of place to speak farther of the others here. In conclusion, I may observe that, in the cases alluded to, wine was found to be much inferior to whisky; thus confirming curiously the remarks of Campion, Camden, and Borlase, all of whom wrote nearly three centuries ago"(*a*).

(*a*) [It would add to the statistical value of this Report were there data at our disposal from which even an approximation to the mortality arising out of the recent epidemic of fever could be arrived at; but we are not aware of any means by which this could be effected. The collected returns of the various hospitals, both permanent and temporary, the poorhouses, and the other eleemosynary institutions, could not possibly be obtained for a Report of this description. From some of the Dublin hospitals we have, however, received information worthy of being recorded.

Dr. Nalty has kindly procured us the following information with respect to the proceedings of the South Dublin Fever Committee. The number of cases admitted into the temporary fever hospital at Kilmainham, from its opening upon the 24th of June, 1847, till it was closed on the 29th July, 1848, was 6878; deaths 682. The number of beds provided at the Kilmainham establishment was 990, besides 180 supported at the Cork-street Fever Hospital, at the charge of the union, and some additional ones in Sir Patrick Dun's hospital. The number of fever patients admitted into Sir Patrick Dun's was, in 1847, 676, of whom 44 died; 185 were received in 1848, and of these 20 died. In Steevens's Hospital 88 cases of fever were treated in 1847-8, of which number but 3 died. The greatest number of patients in the Kilmainham sheds at any one period was 852, upon the 12th November, 1847. The average num-

Dr. Russell, of Enniskerry, County Wicklow, writes:

"The late epidemic prevailed to a considerable extent in this district, but the poor people were perhaps better prepared to meet it than in less favoured districts, as, though they suffered much from want of food, and also from food of a bad quality, yet there were not any cases of absolute starvation; however their privations gave rise to a considerable amount of diarrhœa, dysentery, and anasarca, and also some cases of purpura.

"The epidemic was, with two exceptions, confined to the poor, and nearly all were taken to the hospital.

"The relapsing fever was so severe in its attack, that they came into hospital at an early stage. Not so the maculated fever; as it was generally mild in its onset and progress for a

ber of days which each patient spent in hospital was twenty-four and a half; and the average cost of each patient a fraction more than ten pence per day.

In the union workhouses, as soon as fever appeared, the patients were transmitted to some of the neighbouring hospitals, or to the fever sheds.

From the Fever Hospital and House of Recovery, Cork-street, we have procured the following information. Admitted into the institution (tents and sheds included), from the 1st of January, 1847, to the 31st of December, 1848, both inclusive,—7250 cases, 3038 males and 4212 females; deaths, 566, of which number 263 were males and 303 females. 259 cases remained in hospital on the 31st December, 1847; and from that time to a similar date the next year 2376 cases were admitted, 955 males and 1421 females; the deaths of these latter were 197, 85 males and 112 females. See also Dr. Eustace's Report for 1847.

From the northern side of the city we have received the following return. The North Dublin Relief Committee opened hospital accommodation, at the Drumcondra sheds, for 594 patients, 264 males and 330 females, upon the 31st May, 1847, and closed them upon the 1st of July, 1848. The numbers treated in the North Union fever sheds during this period were 3047 males and 3074 females; of which number 474 died, 225 males and 249 females. The average number of days spent by each patient in hospital was twenty-three; the cost per diem, 10½*d.* On the 9th of October the greatest number of patients, 644, was in hospital.

From the governor of the House of Industry we have received the fol-

few days, they did not come into hospital until a late period of the disease, and consequently the mortality is heavy.

"On referring to the hospital registry I find that the epidemic commenced on the 3rd of February, 1847, and that the cases became of the average amount about the end of March, 1848. During this period 228 cases were received into hospital.

"We had 101 new cases of ordinary fever, of the simple continued character, with complications of bronchitis and pneumonia, being most prevalent.

"Ninety new cases of fever of an inflammatory type. Those fevers were of a peculiar character, being generally characterized by intense pain of head, back, and limbs, with a tendency to crisis on the seventh or ninth day, by profuse perspiration, and sometimes preceded by diarrhœa; this crisis being followed

lowing return: "In the Hardwicke Hospital, and the sheds attached thereto, there were, in 1847, 3240 cases, of these 1586 were males, and 1654 females, and 297 deaths; and in 1848, 2234 were admitted, 1114 males and 1120 females, of whom 210 died. The sheds were opened upon the 22nd April, and closed upon the 17th November, 1847."

Dr. Kirkpatrick, the senior medical attendant of the North Union Workhouse, has afforded us the following information: "The fever appeared in the North Union Workhouse upon the 3rd of March, 1847; during the ensuing three months 180 men were attacked, and 214 children (from seven to fifteen years of age), of whom 123 were boys, and 91 girls. The disease was at its height on the 12th of May, 1847. Only two deaths occurred in the Workhouse during the above period, most of the cases having been conveyed to the fever hospitals of the city. From this date till the 1st of August, the disease gradually abated. At this period, however, it began again to increase, and reached its maximum severity in December, seventy-two cases having occurred in the week terminating the first of that month. From the 1st October, 1847, to the 1st October, 1848, 703 cases of fever were removed from the union and auxiliary workhouses to the Glasnevin fever sheds. During that period eleven of the officers and paid attendants had the disease, of whom six died! They all had it very severely. Thus, of the entire staff of the institution, one-half had the disease, and more than one-fourth lost their lives. The nurses and assistants in the fever wards were all attacked; in almost every case there were one or more relapses, unless when the first attack was severe and protracted."—Ed.]

by a complete remission. But the most striking peculiarity (no matter what precautions were taken) was relapse on the fourth, or perhaps the eighth or ninth day, with aggravation of all the symptoms, which continued for four or five days, and terminated by profuse perspiration, which was again followed by complete remission. So certain was the relapse that it seemed part of the fever, which after a remission of four, or eight days *in a few instances*, was sure to return. In three instances there were two relapses; in one there were three, the last maculated. In a few cases there were small red spots like flea-bites. The complications were few, bronchitis and gastric derangement being the most prevalent. This epidemic was evidently contagious, as three assistant nurses were attacked, and had fever of the same character.

"As to treatment, I did not use any active measures, having bled in only two cases which were complicated with pneumonia. Leeches were seldom required, the head being relieved by cold applications and blisters. Gastric derangements, such as pain and vomiting, were treated with blisters, turpentine fomentations, or sinapisms. In some cases there was tenderness and fulness in the region of the spleen, which yielded to the same treatment.

"There were thirty-seven cases of maculated typhus, some of a very bad character. In one case the extremities were blue, and covered with purpura to a very considerable extent, being in irregular patches of many inches in circumference. The patient being night watchman in the house at Powerscourt, he was up every night, and continued to watch for five nights after the access of fever; he died on the fourth day after admission into hospital, the powers of life being too low to admit of reaction.

"As the other cases did not differ from ordinary maculated fever, I shall not make any remarks on them, further than to state that I found Dr. Graves's treatment with tartar emetic, and tartar emetic and tincture of opium, of signal service in such cases as

he describes. Many of these cases were not taken into hospital until a very late period of the disease, and consequently the mortality was heavy.

"Simple fever, with complications, 101 cases. Four deaths.

"Relapsing fever, with complications, 90 cases. Three deaths.

"Maculated fever, with complications, 37 cases. Five deaths."

Mr. Kelly has furnished us with the following remarks on the epidemic of fever at Mullingar:—

"In 1847, after a severe variolous epidemic, a fever of a most peculiar type developed itself, characterized by its mildness, relapses, and extremely contagious nature.

"In every case the accession was invariably well marked by an initial rigor, followed by universal soreness, with generally severe muscular and arthritic pains; on the third day profuse perspiration, with slight remission of the symptoms, occurred; and on the fifth day a crisis, either by vomiting, diarrhœa, perspiration, epistaxis, or a copious flow of urine, took place.

"The crises were almost invariably preceded by an exacerbation of the muscular and arthritic pains, of so severe a character, in most cases, that the patients were obliged to give vent to their feelings in the most pitiable cries.

"Between the twelfth and sixteenth days from the accession they invariably relapsed; the secondary crisis, similar in character and severity to the primary, occurring generally on the third day. Patients frequently relapsed so often as four times, with intervals of from five to eight days between each.

"One of the most anomalous symptoms of the epidemic, one which marked its true character (a famine fever), and impressed on the mind of the attendant the source and origin of the disease, was the importunate calls for food by all pauper patients, even during the first days of the attack.

"Another was its being acccompanied in most cases by severe muscular and arthritic pains, with copious perspirations,

which latter, although exceedingly acid when tested with litmus, yet did not evolve even the slightest odour of acidity.

"Its smell was peculiar, not fetid or heavy, but somewhat like burning straw with a musty odour; and, strange to say, there was not a single pauper in the workhouse, with whom I had any intercourse, that did not evolve a similar odour when heated by even the slightest exertion.

"Another extraordinary circumstance connected with the workhouse was the dry, hot state of skin of almost every individual in it during the prevalence of the epidemic, clearly indicating that the disease must have been incubating in the system of all the inmates, and that the slightest depression of the constitution, already at almost its lowest figure in the scale of resistance to morbid influences, would be sufficient to awaken the slumbering virus of the epidemic, and develope all the symptoms of the disease.

"It is a popular belief that an attack of fever once in a life shields the individual against a similar visitation again. In this epidemic, however, no such immunity was enjoyed by those who had passed through that ordeal, as I saw very many cases in which it was taken a second and even a third time that year, periods of from one to two months intervening between each attack.

"Another remarkable feature was its extremely contagious character, for if one individual of a family took it, in nine cases out of ten every other member of the household was quite certain to catch the disease.

"With respect to the use of mercury, I may remark, that when there appeared an almost total cessation of the function of secretion I gave a very fair trial to the hydrargyrum cum cretâ, but it did not appear to exert much control over such cases. Its combination with Dover's Powder and dried carbonate of soda was, however, most valuable in bowel complications, more especially when accompanied by dry tongue and epigastric tenderness.

"It was also most valuable in the catarrhal complications of old subjects, combined with ipecacuanha, and administered with ammonia.

"I cannot charge my memory with having seen a single case of death from the epidemic in its uncomplicated state; the fatal cases were produced either by complications or typhus. All the members of one family in particular, named Reddy, were completely cut off by relapsing typhus. They lived in a bog, were very comfortable, and were not in any manner exposed to contagion. The eldest son first took it and died; next the mother, who was brought into the temporary hospital; she died; the second eldest son then caught it, came into hospital, had a crisis on the twelfth day, and left on the eighteenth, apparently convalescent; caught cold at a funeral the day he left, relapsed, and died at home. His sister, who was living in England, came to see him; she took it and died; and a neighbour of their's named Hope, who at times went to see them, also took it and died. The house was then razed, and the mortality ceased."

Dr. Hudson, of Navan, County Meath, has furnished us with the following Report:

"I am not aware that there was anything unusual in the state of health of this district previously to the outbreak of dysentery and fever in 1847. On the 1st of January there were but twenty-six patients in the Navan Fever Hospital; this number was early in the following summer increased to upwards of fifty; and the entire number treated during the year amounted to 1232, an increase of more than 900 over the preceding year.

"Besides the permanent hospital, there were also opened two temporary fever hospitals in the neighbourhood, into which a great number of patients were received in the years 1847 and 1848.

"Dysentery preceded the general outbreak of fever here, and in the spring of 1847 was very fatal; many of the poor

died in their houses, and in the month of March four patients died in the hospital of this disease. After this period we met it more usually in the relapse from fever; and at a still later period it seemed to give way to diarrhœa and the other phenomena of dothinenteritis.

"On the character of the prevailing epidemic becoming decided it was evident that it had no features in common with infectious typhus, or with our endemic typhoid fever. Neither was it, in this part of the country, a perfectly new form of fever; I had been familiar with it since the year 1845, when the same disease was pretty generally epidemic here. It had been prevalent in Scotland in 1843–4, and I perceive that Dr. Lynch of Loughrea dates its appearance in Galway so early as the former year.

"Its points of difference from our ordinary typhus are striking, and have been well put forward by Dr. Frazer in his short account of the epidemic as it appeared in Dublin: sudden and severe in its invasion; short in its duration; abrupt in its termination; almost certain to return after an interval of four or eight days, in defiance of all precautions; presenting none of the cerebral disturbance of typhus, but attended frequently with vomiting; and presenting an appearance of skin, not only not characteristic of the other, but strikingly peculiar to itself.

"If farther distinctive characters were wanting, I would add, from my own observation, that the late epidemic was a well-marked *remittent;* and that, believing typhus to be one of those specific contagions which are *generally* suffered only once in a lifetime, I cannot acknowledge its identity with a disease the subjects of which afterwards contracted typhus in twelve instances, under my own observation, within the year.

"One of these was in the person of a physician in this county, who was much exposed to fatigue and fever in his attendance upon several public institutions. He first suffered a most severe attack of the yellow remittent form of the epidemic. After a tedious recovery he left home for some weeks, and on

his return resumed his attendance upon the fever hospital and sheds; about a month elapsed when he was again knocked down, this time with exanthematous typhus. Nothing could be more striking than the contrast between these two attacks: the first marked by much abdominal congestion, jaundice, a torpor almost amounting to coma, low temperature, profound prostration, &c.; the other a purely active and sthenic disease, attended with a copious measly eruption, and with a good deal of delirium, but with none of the alarming adynamic symptoms of the first illness.

"Of the hospital patients whom I attended in the two attacks, two had the epidemic in July, and were again admitted in typhus in November.

"While these were convalescent, four patients were discharged cured of the epidemic, and were each re-admitted in a few days in typhus, having, I presume, contracted the disease in the convalescent wards. Additional proof of infection so communicated was afforded by three others, who, after recovering from the epidemic, sickened of typhus while in the convalescent wards, and were removed again to the fever wards. In several other instances I only witnessed the second attack.

"For several months previous to the occurrence of these cases, not a single case of typhus had been admitted into the hospital; and although such were carefully discriminated from the epidemic, and noted in the registry, I find only seventeen entered as admitted during the year.

"Though I consider the epidemic to have been equally distinct in its nature from endemic typhoid fever,—the non-infectious fever arising from certain kinds of malaria,—I must admit that the pathology of the secondary period closely resembled this affection. There were the same expression of face, the same dry, contracted tongue, the same globular distention of the cæcum, gurgling over the ileo-cæcal valve, ochre-coloured liquid stools, and the thinly scattered, rose-coloured, elliptical spots over the chest and abdomen; and in several fatal cases we found, on dissection, the same ulceration of Peyer's

glands as in dothinenteritis. It is, however, to be borne in mind that such are also the phenomena of *relapse* after typhus or any other kind of fever. We do not see typhus relapse into typhus (I, at least, have never seen it occur), but into a secondary fever, now of an irritative, now of a typhoid kind, which Dr. Cheyne long since showed to depend upon dothinenteritis.

"To detail the history of this epidemic would be a needless repetition of what has been so often written. Here, as in other places, it was sudden and severe in its onset, attended with violent headach and general muscular pains, and, in many patients, by oppression of the præcordia and vomiting of green fluid. It most generally terminated on the sixth or eighth day by copious sweating, or by diarrhœa, or occasionally by epistaxis, by which crisis, in some cases, the balance of the circulation was perfectly restored, and the convalescence completed; while in others, visceral congestion, especially of the spleen, continued, and at the end of four or eight days the fever of relapse commenced, in some terminating again in a few days by a second crisis, while in others it became complicated by different lesions of the intestinal mucous membrane and glands, of the solid viscera, and in some cases of the lungs (tuberculosis). The pathology of the primary attack—congestion of the splanchnic viscera—was usually manifested by the feeling of oppression at the præcordia, with or without green vomiting, by epistaxis, and by a yellow tinge of the skin, varying from a straw-colour to a very deep jaundice. The epistaxis was rarely, if ever, met with, except in connexion with congested spleen; and the hue of skin was, I think, sometimes attributable to this cause, though, no doubt, more frequently the direct effect of the action of the fever-poison on the blood.

"I would refer to Dr. Cormack's excellent account of this fever, as it appeared in Scotland in 1843, for an examination of the different theories of this phenomenon; but while I think he fully sustains his opinion,—that it is a direct effect of the

fever-poison,—he does not attach sufficient importance to the effect of a stasis of blood in any solid organ upon the physical qualities of the mass of circulating fluid, as witnessed in the yellow hue of patients affected with hepatization of the lung, protracted ague, or with enlarged spleen, &c. By some high authorities this appearance is ascribed to inflammation of the liver or duodenum; in other words, it is looked upon as a true jaundice. A very few of the cases which I met with in 1847–48 supported this view. In one deeply jaundiced case, in which there was frequent, but not very copious discharge of blood from the bowels, the liver, more especially its left lobe, was enlarged, and very tender to the touch, a condition which yielded only to the full action of mercury.

"Another (fatal) case, in which the colour of the skin was a dusky olive, was attended with black vomit, under which the patient sank in a few hours after admission, and before any accurate history could be obtained. Dissection discovered in the stomach a large quantity of the same grumous matter which had been vomited, with some congestion of its mucous membrane, an enormously enlarged liver, coated with lymph, and already somewhat puckered and rounded at its edges by the prolongation (and subsequent contraction) of bands of lymph from the surface into the interior of the organ. There could be no doubt that this plastic inflammation of the liver had preceded the febrile attack, and had produced the fatal hæmatemesis.

"The above were nearly the only instances in which the hue of the skin could in any way be traced to gastro-hepatic inflammation, among the many hundreds of patients presenting it during the year.

"Relapse occurred so frequently (for some time so constantly), and in spite of such varied precautions, that I felt the greatest anxiety to ascertain the pathological condition upon which it depended. The only link I could ever discover between first and second seizures was a congested state of the

spleen. In cases in which epistaxis occurred after crisis, and was accompanied by a sallow hue of the surface, and a peculiar violet or lead-coloured tinge in the colour of the substance of the tongue, we never failed to discover a space extending from two to four fingers in breadth over the angles of the lower ribs, which yielded a dull sound on percussion, and was sometimes tender on pressure. I do not recollect such an instance in which relapse did not surely follow. I am strongly of opinion that more or less splenic congestion existed in every case in which relapse did occur, and that this was the true *nidus* or point of irritation on which it depended. It was in these cases more especially that the remittent type became distinctly marked, and the more so the longer the disease continued; and in several instances during the epidemic I witnessed the change of this into a well-defined intermittent before the complete recovery of the patient.

" I have no means of comparing the mortality in the hospital with that of the district generally. In hospital, 1 in 29 of those affected with the epidemic died; nearly all during the second attack, or in some of its sequelæ. Of these dothinenteritis and dysentery carried off the greater number, several ran into acute phthisis, and a few sank under copious hemorrhage from the gastro-intestinal mucous membrane. In some of the fatal cases of dothinenteritis the rapid and painful collapse before death exactly resembled that of peritonitis from perforation, but in no instance was this lesion found. Extensive ulceration of the mucous membrane and follicles of the ileum and cæcum existed in all the fatal cases which I examined.

" One of the most remarkable characters of the secondary fever was its tendency to run into acute tuberculosis. Although notes of individual cases are not suited to this report, I am tempted to subjoin the following short account of one, interesting from the rapidity with which this occurred:—The patient, a fair-haired young man, aged 18, previously healthy, was admitted into hospital on the fourth day of fever. On the

eighth day he had a sweating crisis, and rapidly became convalescent. Eight days afterwards he relapsed, and for the first time since his admission he had cough (without expectoration). No signs of any pulmonary affection being discoverable, the cough was treated as a catarrhal one, by leeches to the trachea and small doses of tartar emetic in a mucilaginous mixture. On the third day of the relapse he had copious epistaxis, and this led to a careful examination of the region of the spleen, and to the discovery of a considerable enlargement of this organ. On the fourth and fifth days the epistaxis recurred, and the dulness had extended as high as the scapula. The respiratory murmur was feeble and interrupted, and both inspiration and expiration were accompanied by a sibilant râle. It was also noted that the heart's sounds were heard very distinctly in the upper portion of the left side. I had no doubt that this was a case of acute phthisis, but I was not prepared for the very rapid termination which occurred early on the morning of the seventh day of relapse.

"On examination after death the heart was found displaced fully two inches by an enlarged spleen. This latter organ weighed two pounds fourteen ounces. It was of a dark purple colour, coated with patches of a substance resembling fibrine, and containing, internally, numerous masses of tubercular matter of various sizes. The whole of the left lung was of a dark violet colour externally, the upper portion crepitant; the whole of the lower lobe was hepatized, red, and friable; part of the posterior upper portion congested, resembling the first stage of pneumonia. On washing away the contained blood the lower lobe became of a greyish colour, and its section showed aggregated minute granules, each scarcely larger than a pin's point.

"The glands of the ileum were enlarged, tumid, and in some instances ulcerated. The mesenteric glands were congested, and contained a whitish deposit. I submitted a portion of each of these viscera to my friend, Dr. Aldridge, for micro-

scopic examination, and he informed me that in none was there any product of inflammation, but that the deposit in all was of a tubercular nature.

" In other cases the progress was slower, and the tuberculosis was found on dissection to be more advanced. In one the small masses of tubercle with which the spleen was thickly studded (so as to exactly resemble a lung studded with softened tubercles) were, many of them, of the consistence of pus.

" I have little to record on the subject of treatment. The first stage required little interference; occasionally a few leeches to the mastoid process relieved the headach, and the green vomiting was often checked by a few applied to the epigastrium, or by a small blister, with the internal exhibition of small doses of calomel. The diarrhœa and dysentery of the second stage too often resisted all treatment. In some cases leeching and blistering over the cæcum, with the internal use of mucilage and sedatives, succeeded; sometimes the application of mercurial ointment over this part seemed useful, but I cannot say that I ever saw any good effect from the internal use of mercury in these affections.

" I very soon experienced the inefficacy of the mineral astringents, acetate of lead, nitrate of silver, and sulphate of copper, whether exhibited by the mouth or by enema. No astringent had so good an effect in my hands as oil of turpentine, in doses of six or eight minims, given in emulsion.

" Several medical friends who, like myself, were disappointed with the mineral astringents, tried the turpentine at my suggestion, and all report favourably of it. One of them, who had charge of a large temporary hospital, informed me that in some tedious cases he found advantage from changing the form of exhibition, and giving Chio turpentine in pills.

" In many cases of protracted convalescence with enlarged spleen, I employed repeated dry cupping over this organ with advantage; and in some cases, where tenderness or pain was present, I also abstracted a little blood by this means.

"I never saw any good effect from quina given alone, whether before or after relapse; but in several cases in which a tedious remittent lingered on, I succeeded in cutting it short by a combination of five grains of sulphate of quina with five grains of sulphate of iron, given every twelve hours. With the exception of one tubercular case, this plan succeeded in every instance, and sometimes required to be but once repeated. Of course it was never given when contra-indicated by intestinal irritation. I also gave Bewley and Evans' effervescing solution of citrate of iron, with excellent results, in some of these tedious cases where splenic enlargement existed.

"It is worthy of remark that occasionally the immediate effect of the large dose of quina and iron was to produce the change of the remittent into intermittent, to which I have before alluded.

"I did not meet with anasarca in more than two or three individuals as a sequela, but rheumatic pains were very frequent, and were in general quickly relieved by hydriodate of potash. Bed-sores were by no means frequent."

Of the epidemic at Trim, Dr. Jones Lamprey writes:

"I have drawn up the following report on the epidemic fever prevalent at Trim in the years 1847–48, in as concise a form as possible, from notes collected during a period of some months that I acted as medical officer to the County Meath Gaol, County and Relief Committee fever hospitals, and Trim Union Workhouse, as well as from an extensive domiciliary practice amongst the poor of the surrounding neighbourhood.

"The district with which these institutions are mostly connected is situated in the centre of one of the wealthiest and comparatively least populated counties of Ireland; it extends over a space thirteen miles long by three or four broad, and comprises the two electoral divisions of Trim and Kilcooly, averaging a population of 13,000.

"The people of this county are generally well housed, comfortably clad, and, being principally engaged in pastoral

pursuits, are not so much dependant on agricultural resources. Hence the failure of the potato crop,—moreover, not altogether complete in this locality,—was not attended with the same consequences, nor did the people exhibit the same aspect as those living in other famine-stricken districts ; but, notwithstanding all these advantages, disease was very prevalent, and assumed a most decided character.

" A disease had also been prevalent among the cattle, which was described to me as being similar to the ' pleuro-pneumonia' that had been decimating the horned cattle for some years previously.

" In describing this epidemic fever, I am under the necessity of classifying the variety of forms in which it appeared in the order of their most frequent occurrence: 1st. Simple continued; 2nd. Typhoid; 3rd. Gastro-bilious or jaundice; and 4th. Typhus; and though such an arrangement may be objected to by those who do not admit so precise a classification of fever in general, still, as a wide difference was visible in the cases when lying side by side in the hospital, such distinction, though perhaps not strictly scientific, was useful as a guide to treatment.

" The form that the majority of cases of this epidemic assumed was that of the simple continued fever, the periods of attack generally lasting nine days, and terminating on the ninth day with a critical perspiration, which was always preceded by a secondary rigor. The attack in most cases was not severe, nor attended with complications, unless in those instances where the patient had been dosed with sulphate of magnesia or castor oil, which usually gave rise to some gastro-enteric symptoms, and more or less prolonged its ordinary duration.

" A rigor marked its invasion, and the ' pains in the bones, and headach,' with much prostration and loss of appetite, made the patient aware that he had ' the sickness.' On examining him we found his countenance congested; conjunctivæ suffused; tongue furred and white; skin hot; pulse 120, and inflam-

matory; and the bowels constipated for three or four days previously. Excessive headach, and constant thirst for cold water, were the most constant symptoms during the attack. Its most remarkable features consisted in an insatiable hunger that followed the crisis, and the constant relapses that took place in defiance of all precautions; the sequelæ that I have observed were rheumatic pains, particularly of the upper extremities, and dropsical infiltration of the lower, especially among females. Iritis occurred in two individuals, and parotid abscess took place in a third.

" The treatment that I was in the habit of adopting in these cases consisted in having the head shaved or the hair cut close, and administering a bolus of calomel, ipecacuanha, and rhubarb; and if the pain in the head continued severe, the application of a few leeches (generally one to each temple was found sufficient) gave great relief, followed by cold applications to the forehead; a few grains of hydrargyrum cum cretâ, with ipecacuanha, given two or three times a day for a couple of days, the use of a diaphoretic mixture, and allowing the patient to drink freely of cold spring water. Blistering the head or neck only increased the suffering, and added to the inflammatory action of the fever. This treatment was found sufficient to relieve the head, diminish the heat of the skin, and lower the pulse.

" No matter how urgent the symptoms, or how favourable the appearances were for general bleeding or the use of tartar emetic, the prostration that ensued after these remedies were tried was so great, that I no longer used them, as the few that I thus treated required most expensive stimulants to support them through the attack, the period of which was protracted; convalescence was slow, nor did such practice insure them from the usual tendency to relapse. I very frequently succeeded in cutting short the relapse by timely administering an emetic of ipecacuanha.

" The typhoid form was the next in order of frequency;

the period of attack lasted twenty-one days, and generally occurred in broken down constitutions, and in persons beyond the middle age. Its symptoms commenced slowly, and did not present much uniformity. The skin was generally hot, dry, and chaffy, and covered with maculæ, which at first were with difficulty distinguished from ordinary flea-bites; but in the latter stages of the disease, when there was failure of the circulation, they assumed a darker colour and more diffused outline; the pulse, always weak, was sometimes quick, at other times slow, and particularly towards the latter stage it became faltering and irregular; sordes collected on the teeth, gums, and lips; the tongue, dry and concave, covered with a glazed brown crust, remarkably fissured in most instances, its margin sometimes moist (a favourable sign); urine dark and scanty; the excretions from the bowels also scanty and vitiated; countenance inanimate; circulation indicating great weakness; cerebral depression; semi-comatoseness; and not unfrequently subsultus.

"There was sometimes a considerable amount of epigastric tenderness, but for the most part there were no symptoms present that denoted the existence of any organic lesion.

"These cases usually recovered on the twenty-first day of the attack, by merely exhibiting a marked improvement in the symptoms, which progressed slowly to perfect convalescence, without the occurrence of any marked crisis, unless the return of the secretions could be considered as critical. The patients became very much emaciated. Relapses frequently occurred, but not until a long interval had elapsed after the primary attack.

"The treatment I found to answer in these cases consisted principally in sponging the surface of the body with tepid water, giving mild diaphoretics, and aperient enemata in the earlier stages of the disease. Subsequently, the circulation was the principal guide to treatment; when it required a stimulus, a blister to the occiput did much service, besides the free use of wine and carbonate of ammonia.

" The third form of this epidemic, to which the term gastro-bilious or jaundice fever may not be inapplicable, presented many differential marks from the preceding ones; and, though occurring like the ordinary simple continued fever, it was afterwards to be distinguished from it by the dark jaundiced colour that the skin and conjunctivæ assumed about the fourth or fifth day. There were always great pain in the gastric and hepatic regions, also in the eye-balls and forehead; bilious vomitings and hiccough (vomiting of black matter had occurred in one aggravated case that came under my notice); dark fetid discharges passed from the bowels; black sordes collected on the lips, gums, and teeth, and also coated the tongue; breath very offensive; frequently cerebral depression; pulse at first inflammatory, varied from 100 to 150: profuse perspirations, though not decidedly critical, occurred on the seventh, eighth, ninth, to the fifteenth day, which required instant checking on account of the alarming prostration that ensued.

" Some of these cases terminated most remarkably; one man, whilst sitting up in his bed, taking a drink, fell back, and immediately expired, though at the time he was sufficiently strong to support and help himself: two or three others died in an almost similarly sudden manner.

" The jaundiced appearance of the skin continued for a long time during convalescence, which was slow. These patients seldom relapsed; and all, with the exception of those before alluded to, did well. I had not the opportunity of examining these cases that proved fatal. There was one well-marked example of this form of fever being communicated by contagion.

" The treatment that I employed in such cases consisted in applying a few leeches to the epigastrium; three or four were generally found to be sufficient, as it was remarked that the leech-bites continued bleeding for several days. I then applied a large blister over the gastric and hepatic regions, and dressed it with mercurial ointment. Small doses of hydrargyrum cum cretâ and ipecacuanha were administered internally

every first or second hour, until there was an amendment, and aperient enemata were used when the bowels required them. On the commencement of the perspirations, I found a mixture containing quina and nitric ether of great use in checking them, by acting as an astringent and diuretic.

" The next form that I observed was the typhus fever. Though of comparatively rare occurrence (being in the proportion of four per cent. to the others), it was characterized by commencing with rigor, considerable headach, and great prostration; the presence of diarrhœa; an irritative cough; suffused eyes; and, after the lapse of two or three days, the appearance of an exanthematous-like eruption (petechiæ). The head symptoms increased; there was frequently delirium, great restlessness, stupor, coma, and peculiar nervous agitation of the upper extremities; bronchitic râles were heard in the lungs; the heart's action varied according to the stage of the disease; towards the latter stage its action became rapidly vibratory; the tongue was dry and furred. On examining the abdomen there was generally some epigastric tenderness, and over the region occupied by the cæcum there was always a peculiar fine crepitus perceived, resembling that felt on handling tissue paper, indicating the existence of dothinenteric complication. These cases generally resolved themselves on the twelfth, fifteenth, or twentieth day after attack, by crisis of perspiration Relapses following the simple continued form frequently assumed the characters of the well-marked typhus, but the change of character from that of the primary fever was mostly to be attributed to contact with typhus cases.

" The treatment of these cases, which lasted for such a lengthened period, was necessarily modified and altered according to circumstances, but was principally determined by the condition of the pulse, as in the typhoid form, which denoted the use of stimulants, or the reverse. Port wine was largely used when delirious restlessness was present. The antimonial

treatment originated by Dr. Graves answered in restoring the nervous system to a quiet and composed state.

" Where the petechiæ were of a very dark colour, or threatening to run into a putrid condition, I have found the exhibition of yeast, in combination with camphor and nitric ether, of great service in staying the septic process, besides acting as a powerful stimulant(*a*).

" The following list shows the relative frequency of the four forms of fever occurring in this epidemic, which I have described:—Of 100 cases, there were of simple continued fever, thirty-five; typhoid, twenty-three; gastro-bilious, or jaundice, eighteen; and typhus, four.

" The principal circumstances conspiring to make this epidemic so prevalent were the congregation of a large number of poor people together, either for the purpose of seeking aid from the Relief Committees, or waiting for the distribution of food at the relief depôts. Many owe their illness to contact with the poor collected on these occasions(*b*). But by far the chief agent in propagating it (perhaps the origin of the epidemic is

(*a*) " I cannot speak too highly of the stimulating and antiseptic properties of this mixture. I have seen it remove the dark, livid hue of the skin in this form of fever within a few hours; and, as another proof of its antiseptic powers, I found that, on administering it in cases of dysentery attended with great fetor of the dejecta, it speedily removed all odour, and, at the same time, rather counteracted the frequency of the discharges from the bowels. The following is the formula I used:

R. Cerevisiæ fermenti, ℥x.
Camphoræ, ʒss.
Ætheris Nitrici, ʒiv. Misce.

An ounce to be taken every hour, or every second or third hour.

" The mixture soon becomes so agreeable to the palates of the patients, that it is necessary to keep it concealed from them, for fear of their making 'too free' a use of it."

(*b*) " I understand that the late Dr. Clifford attributed his fatal illness (typhus fever) to this cause, and dated the accession of his attack from one day's laborious duties at one of the meetings of the Relief Committee."

due to the same cause) was the constant practice that the people of the western and more stricken counties had of migrating towards the eastern parts of the island. These poor creatures, obliged from their poverty to sleep in the open air, in ditches and other wretched places, carried the fever, at that time more prevalent in the west, in their own persons, and, mixing with the people attending markets or fairs, for the purpose of begging, imparted the disease to them. I have often observed whole families belonging to distant counties lying in fever on the road side.

" The complications observed in this epidemic were mostly cerebral and abdominal; there were but few cases of affections of the thoracic organs.

" If I had previously any doubt as to the highly contagious nature of the epidemic, it would have been immediately removed by the following circumstance:

" A wretched house in the town of Trim, which had been used as a place for accommodating poor travellers with lodging, soon became notorious on account of the number of persons that sickened in it, as all those who made it their temporary abode were attacked with fever, and many cases received into the hospitals were derived from this house, which, in short, was a focus of contagion. This became so remarkable, that some members of the Relief Committee interfered, and had it cleansed, and prevailed on the owners to cease admitting any more people to lodge. No doubt the interior was very miserable, and almost sufficient to have been a source of fever in itself, but there were many other houses equally miserable and wretched, and even used for the same purpose, without having any of their inmates attacked with the epidemic"(*a*).

(*a*) " In addition to the 'central punctum,' which has been described by Dr. Lalor as a useful diagnostic in determining whether the maculæ were those of flea-bites or of fever, I have found that if the shirts of the patients presented the appearance of blood dots, it was conclusive that the 'maculæ'

The history of the progress of fever throughout the County Wexford has been collected for us by Dr. Boxwell, and is thus detailed from the reports furnished him by Drs. Lang, Carroll, Goodison, Carey, and Long.

The disease was very prevalent in Arthurstown, Ross, Enniscorthy, Newtownbarry, Wexford, and Killan; and although the general health of the community was tolerably good previously, diarrhœa and dysentery prevailed at Arthurstown and Killan, in both of which places the epidemic fever broke out in April, 1847, but did not appear generally throughout the county until the May following. The lower orders, and those debilitated and broken down by hardships previously experienced, appear to have been the persons who suffered most. There does not appear to have been much actual starvation in the County Wexford, and therefore the medical men are unable to give any satisfactory answer with respect to the seventh and eighth queries of our Circular, with the exception of Dr. Long, who reports that purpura and scurvy were well marked at Arthurstown. There was a very general attack of pleuro-pneumonia among cattle throughout this county in 1845, 1846, and 1847.

The average age at which persons were attacked was 25, and females were more frequently the subjects of fever than males. All the reports from the County Wexford agree as to the contagious nature of the disease, and state that the fever was much more violent and fatal in the upper classes of society than in the lower, but that the latter were slower in recovery, and required a more stimulant plan of treatment. The fever among the lower order was also characterized in this county by a tendency to relapse. In Dr. Carey's report from Newtownbarry, it is stated, that typhoid symptoms fol-

were caused by fleas. The reason of this is obvious, and a knowledge of the fact has often determined the nature of the eruption where the puncta could not be found."

lowed the starvation state about the fifth day; in Wexford they occurred about the third. All the reports from this county agree in stating that this fever was characterized by its brevity and great tendency to relapse. Dr. Carroll, of Ross, however, says, that in his neighbourhood there was, in addition to the relapse a greater amount of typhoid symptoms than usual.

To the eighteenth and nineteenth queries, as to the prevalence of purpuric spots and the occurrence of crisis, the answers are all in the negative. Dysentery prevailed extensively; and in Enniscorthy, Dr. Goodison says, more died of it than of fever, which it generally followed. The local complications were, at New Ross, chiefly gastro-enteric; at Newtownbarry, affections of the chest; at Wexford, those of the chest and head; and at Enniscorthy and Killan, those of the head and the gastro-intestinal mucous membrane. The difference between the primary and relapsed cases, in this county, chiefly consisted in the fact, that the latter were characterized by greater weakness, and were not maculated. All the returns agree in stating, that petechiæ never appeared in the relapse when they did not occur in the primary fever. At Newtownbarry, epistaxis, in the early stage, was often attended with relief. At Killan this symptom was frequent towards the latter stages, when it proved very untoward. Bed-sores were very infrequent. At Enniscorthy and Wexford the mortality was much greater among the higher orders. Generally speaking, the mortality was greater among those attended at their own houses than in hospital, and, therefore, the rural districts suffered most. We have no record of any *post mortem* examinations.

With respect to the duration of the disease, fifteen days seems to have been about the usual period, except in Newtownbarry, where it did not exceed ten. The convalescence, in most instances, was from ten to fourteen days. The most remarkable peculiarity in those primary cases which were subsequently followed by relapse, was, that the fever was not

well marked, and that, in some instances, there was greater weakness.

The usual sequelæ of this fever were anasarca, rheumatism, and dysentery. With respect to treatment, stimulants appear to have been used extensively, and in considerable quantities, consisting of wine, punch, ammonia, &c. Local depletion was occasionally had recourse to, but it does not appear from the returns that general bleeding was ever resorted to. Mercury was employed to meet local complications, particularly when the lungs and bowels were affected. Opium, in the form of Dover's Powder, was occasionally had recourse to, and also used with marked benefit, in combination with tartar emetic, in some cases where the head was much affected.

Report from Dr. Falkiner, of Kilcullen, county of Kildare:

"Fever, as it has come under my notice, in this locality, within the last two years, has presented two distinct forms, differing no less in the symptoms, progress, and treatment, than in the class of the community from which the subjects of each were selected.

"The first, the often described and easily recognised typhus, endemic in Ireland,—which was met with almost exclusively amongst the farmers and mechanics, and persons who were not exposed to much privation,—the cases of which have been comparatively few, and have, generally speaking, presented nothing remarkable.

"The second, which may be called the famine fever, made its appearance early in the spring of 1847; it was first met with in those situations where poverty and filth most abounded, namely, in the villages, and amongst the inhabitants of the commonages which are scattered all over this locality; but it soon spread through the intermediate districts, and presented some peculiarities, the most prominent of which I subjoin.

"First, the widely-extended range taken with regard to age, no period of life seeming to be exempted, as well-marked spe-

cimens of the disease were frequently met with in children under five years of age, and again in persons of more than ninety, and of both sexes. The number of females attacked exceeded that of the males in the ratio of nearly three to two. The tendency to relapse, which occurred in at least one-half of the cases, was most common at the beginning of convalescence, though it occurred at all stages. Violent cerebral symptoms were seldom encountered, and dysentery or diarrhœa was not commonly found to precede, accompany, or follow the disease, but pulmonary complications (chiefly pneumonia and bronchitis) were very frequent and intractable, in consequence of the debilitated state of the sufferers. Pleuro-pneumonia was at the same time prevalent amongst the cattle, but not generally so. Crisis occurred but seldom, and, when present, was generally marked by epistaxis. Neither petechiæ nor purpura were very common, though both were occasionally met with; and I cannot call to mind any case in which either appeared, for the first time, after relapse. Generally speaking, neither bed-sores nor congestion of the surface were usual. The term of convalescence varied from fourteen to twenty-one days, except in those cases where relapse occurred.

"The most usual sequelæ were anasarca and scrofulous affections, under various forms, but chiefly ophthalmia and enlargement of the cervical and other glands.

"In cases not complicated, dietetic treatment, carefully regulated, together with alteratives, was found to be most effectual, not alone in removing the disease, but also as prophylactic of relapse. Stimulants, except of the diffusible kind, were generally contra-indicated by the prevalence of pulmonary complications.

"General bleeding was never resorted to, except in a very few cases; and local depletion was not often called for, unless for the relief of chest affections. Mercurial alteratives were often exhibited, and the milder preparations were frequently

used, in combination with antimonials, expectorants, and sedatives, in the treatment of such complications.

"Opium was often exhibited, chiefly in cases of hyper-secretion by the mucous membranes, whether bronchial or intestinal, and, in some few cases, in combination with tartar emetic given in camphor mixture, under such circumstances as Dr. Graves recommends it, and in which cases the results have been most satisfactory. The mortality, as compared with the number subjected to treatment, has been one in twenty-seven."

[With the Appendix, containing reports which were forwarded too late for insertion in their proper places, viz., those of Drs. Callanan and Popham of Cork, Dr. Cronin of Cove, Dr. Seaton Reid of Belfast, and Dr. Knox of Strangford, county of Down, and also the General Summary and tabular views exhibiting the progress, &c., of the epidemic, we will conclude the subject in our next Number.]

Art. II.—*On Cervical Abscesses, the Accidents which sometimes attend their Treatment in reference to Hemorrhage;—And a new Operation for securing the common Carotid Artery.* By William Hargrave, M. B., Professor of Surgery in the Royal College of Surgeons in Ireland, and Surgeon to the City of Dublin Hospital.

On examining the surgical anatomy of the neck we are forcibly impressed with the importance of this region in a practical consideration of the great liability there is of hemorrhage occurring as a sequence to many of the diseases which have their locality in this situation. This liability proceeds not alone from the arteries and veins of the second and third class, but also from the more minute vessels which traverse this region in

such numbers in almost every direction, and which are liable to be opened directly by the surgeon when operating, or sometimes indirectly by ulcerative absorption.

Ulceration is a very frequent cause of hemorrhage in the neck, and arises from such accidents as burns and scalds, from the injudicious application of vesicatories, or from vessels communicating by this process with the cavities of abscesses, either before or after being opened; showing itself, in the first case, immediately on the abscess being opened; in the second, not declaring itself till some days after the contents of it have been evacuated.

In consequence of the improved spirit which now actuates practitioners, of more readily giving to the profession the results of their experience, whether successful or otherwise, we are in possession of some valuable pathological facts bearing on the question of hemorrhage occurring in the neck, and also in the mouth and fauces from tonsillitic affections, owing either to ulceration taking place in the vessels, or from what may be termed secondary ulceration after an abscess has been opened.

Before entering into the details of the following case of hemorrhage from an abscess in the neck, and the practice demanded by it, I shall recapitulate the results of the recorded practice in reference to this occurrence.

Three cases of death following in a very short period from one or other of these causes have been published:

I. An abscess formed on the right side of the neck in a young child; a peculiar thrill and tremor was observed in it; after much deliberation it was punctured, pus mixed with blood flowed from it, then pure blood; the orifice was closed: the child died that evening. The *post mortem* examination exhibited a cribriform communication between the abscess and the external jugular vein(*a*).

II. A remarkable case occurred in the practice of the late

(*a*) Medical Gazette, May 10, 1844, vol. ii. N. S., p. 206.

Mr. Liston, who punctured an abscess on the right side of the neck, with which the common carotid artery had communicated. The vessel was secured low down in the neck. The patient dying of arterial hemorrhage on the fifteenth day, the artery was found to have opened into the abscess. In the paper detailing these circumstances, Mr. Liston mentions three instances of communications between large arteries and abscesses. Three other examples of arterial openings in cavities of this description have been recorded by Mr. Partridge(*a*).

III. An abscess formed spontaneously in the neck five months before death; a white purulent discharge from a fistulous opening in the supra-sternal fossa remained, from which arterial hemorrhage occurred; it was arrested by compression, but returned on this means being discontinued. The patient sunk in forty-eight hours from the first invasion of the bleeding. The *post mortem* examination exhibited an old abscess of a large size, occupying the front of the neck below the larynx, and extending behind the sternum to the right of the arch of the aorta; also a right lateral extension between the right bronchus and arteria innominata to the spine, which, however, was not diseased. The external cellular coat of the aorta and arteria innominata was removed, the fibrous one to some extent; in the centre of it a lacerated opening, about a quarter of an inch long, was found, which penetrated the lining membrane(*b*).

When abscesses form in the tonsils I have witnessed most alarming hemorrhage follow their opening, even when performed with every care, but in no instance has death occurred. In examining the vascular relations of these glands to explain such an occurrence, they present us with three varieties, two of which will afford such hemorrhage as may or may not be fatal; the third, I presume, will always prove so. Under the first head we find the tonsillitic arterial circle, which, if wounded in

(*a*) Lancet, vol. i., p. 864, 1841–2. (*b*) Lancet, July 11, 1846, p. 44.

opening the abscess, will often give an active flow of blood. The next source from which we should be prepared for a serious loss of blood is the inferior or ascending pharyngeal artery, which creeps to the base of the cranium, close to and external to the tonsil. I feel satisfied that, in one case of very alarming hemorrhage which I witnessed, it came from this vessel. Under the third head the bleeding is from the internal carotid, a wound of which must be almost instantaneously fatal.

From oral communications with some of my medical friends, other instances have come to my knowledge, not alone of excessive and often returning hemorrhage in the same patient, but in which a fatal termination has followed the opening of purulent collections, the sequelæ to scarlatina.

So critical and serious are these consequences in practice as to demand every circumspection and examination before abscesses in this region are punctured, but also active subsequent watching in order to detect the first symptom of bleeding, whether of the more evident or of the doubtful kind. We should, therefore, be prepared to meet and ward off this unpleasant, if not fatal occurrence, in cases that otherwise promise a most satisfactory termination. From an attentive examination of the abscesses which have been complicated with active losses of blood, I find that the majority of them were in subjects of a more or less cachectic habit, suffering from struma, or bad forms of scarlatina, perhaps also of a cancerous diathesis.

Analogous communications are occasionally presented to us, in the thoracic cavity, of arteries opening into ulcerated excavations, often causing sudden death; the accident showing in strong contrast the practice of surgery compared with that of medicine. In the former, by its remedial means, if life cannot be preserved, still some extension will be afforded to it; while, in the latter, we are compelled to look on with the calmness of despair, bereft of all hope, incapable of affording any assistance.

The following case, condensed from most accurate and

minute notes taken by the late Mr. Keatinge(*a*), exhibits in a forcible manner the untoward accident of active arterial hemorrhage succeeding to the opening of a cervical abscess, which required the tying of the left common carotid artery, by which the life of the patient was saved.

"Patrick Beahan, aged 61, master of a ballast lighter, was admitted into the City of Dublin Hospital, on the 15th of January, 1849, under the care of Dr. Hargrave.

"Two years previous to his applying to the hospital he had a superficial cancer on the lower lip, on the left side, which was removed by some powerful escharotic, leaving a slight depression evident on the lip, but no trace whatever of cancer or any local affection remained. He had been attending as an out patient for some weeks, for a tumour occupying the space between the symphysis and the angle of the jaw on the left side. The tumour was rather firm on pressure, and, on careful examination, fluctuation was very evident. It was punctured last Saturday by Dr. Hargrave, and a quantity of straw-coloured serum, mixed with scrofulous-looking matter, discharged; a dossil of lint was introduced into the incision; he was directed to poultice it, and, if any pain occurred, to return on the following day. On Sunday, shortly after twelve o'clock, he experienced a very severe rigor, with intense headach, sickness of stomach, and pain in the tumour; on Monday he came to the hospital in the following condition: the left side of face swollen, with an erysipelatous blush spread over it, and extending to near the left eye; pain in the tumour; some headach; thirst; pulse 92, full and strong; tongue coated, bowels

(*a*) I regret to record the death of my young friend, who in November, 1848, entered upon the duties of resident surgeon to the hospital, which he performed with the most unremitting attention and zeal. He fell a victim to typhus fever, of very short duration, in March last. In all his relations, as a student, a surgeon, and a gentleman, he gained and maintained the esteem of all who were acquainted with him.

constipated: the dossil of lint was removed from the wound; he was ordered to bed, and a purgative bolus was prescribed."

From the 16th of January the erysipelas, which had extended upwards over the face to the scalp and eye-lids, and was attended with nocturnal raving, was treated by leeches in small numbers, applied at two different periods, by mercurial inunction, and the internal use of camphor, bark, and aromatic confection; poultices were applied to the abscess, the discharge from which was daily improving in character up to January 20th, when something *like grumous blood appeared on the poultice;* this appearance continued the following day, but was less the one after, i. e. the 22nd, on which day the report states: "The skin of the face is much corrugated, that of the forehead and eye-lids is desquamating; no pain of head; bowels moved four times last night; discharges bilious; tongue not so much coated; pulse 92 and soft."

23rd January. The report goes on to state: "About half-past seven o'clock last night a gush of blood came from the cavity of the abscess, through the lancet wound which was made on the 13th instant; it flowed *per saltum,* was of a florid red colour, and was arrested by placing the finger on the wound. He was asleep when the hemorrhage first commenced, but it awoke him, and although assistance was at hand immediately on its being discovered, he yet lost a considerable quantity of blood, his shirt, the sheet, and the pillow-cover being saturated with it. When the finger was removed from the wound, the blood came out in a jet the thickness of the little finger, and was thrown fully a yard distant. A consultation was held, and it was decided that the common carotid artery should be tied. The operation was performed by Dr. Hargrave in the following manner:—a *transverse incision* was first made through the integuments, about two fingers' breadth above the clavicle; the sterno-mastoid muscle was then carefully divided upon a director for its entire breath, and the sheath of the vessels was easily brought into view, crossed by the omo-hyoid muscle, which was dis-

tinctly seen occasionally in action; the sheath of the vessel was next opened, and the aneurismal needle passed under the artery from without inwards; it was then armed with the ligature, the needle withdrawn, and the artery firmly tied: the hemorrhage was instantly arrested, and all pulsation in the temporal artery ceased. Immediately after the vessel was tied the patient had two severe rigors, quickly succeeding each other, but of short duration; they were followed by active vomiting of some fluid: there was no alteration of vision. No blood was lost during the operation; only one small vein was met with, and that at the commencement of it: the internal jugular vein presented no impediment during its performance. The pulse was slow and weak; while on the table he got a glass of wine, and at ten o'clock, P. M., eight grains of compound chalk powder and Dover's Powder were administered to him, his bowels being rather free during the day. He passed a quiet night, with some wandering, but not so much as previously; no headach; some thirst; bowels moved twice; pulse 68, soft and weak; tongue coated and moist; no pain of neck; swelling of face much less, but abscess much larger, the cavity of it being probably filled by coagulated blood, a coagulum occupies the wound in it; surface of body warm. Diet, arrow root, beef-tea, and cool barley water."

From the morning of the 23rd January, the day after the operation, absolute repose was enjoined, warm water dressing was applied to the abscess, which ulcerated in a fresh portion of the skin below the puncture, and discharged large clots of blood. The two openings were then laid into one. The discharge, though of a healthy character, possessed great fetor, caused by disease appearing in the inferior maxilla, which had become deprived of its periosteum, the bone being scabrous and rough. The constitutional treatment consisted in the administration of the syrupus cinchonæ, occasional doses of camphor, with sub-carbonate of ammonia, and opium, and a guardedly generous diet. The case progressed favourably up

to the thirteenth day from the application of the ligature, when the report states: "Feb. 5th. At about half-past eight o'clock last night some hemorrhage took place from the incision made for taking up the artery; the blood was of a florid red colour, not much in quantity, and stopped of its own accord; after it, his pulse was full, strong, and 92; the dressings, which were not removed, were incrusted with blood; he rested very well during the night, till half-past six o'clock this morning, when hemorrhage again broke out; it came *per saltum* from the dressings, was of a florid red colour, and profuse in quantity; his flannel vest, shirt, and the sheet, were saturated with it as far down as his hips. When the dressings were removed it was arrested by pressure. Pulse very weak and easily compressed; surface of body and feet warm; says he felt a throbbing in his neck before the hemorrhage occurred; tongue rather moist and clean; complains of thirst."

I was called to him at seven o'clock, A. M., and but for the clear, intelligent expression of the eyes, would have considered him moribund; he was given some wine and water; a firm clot of blood glued up the wound; the ligature was *in statu quo*. All the parts were kept as quiet as possible, and dressed with matico leaves moistened in hot water, laid thickly over the incision, over which was placed a compress of lint, well saturated with an infusion of the leaf, and secured by means of adhesive plaster.

From this morning (Feb. 5th), the local treatment consisted in the daily dressing of the wound as just described. The parietes of the abscess were excessively indolent, showing no tendency whatever to granulate; a whitish painless fungus appeared at its internal surface, but it still discharged rather laudable pus. It was cleansed out occasionally with a solution of chloride of lime, and also a weak solution of chloride of zinc, a grain to the ounce of distilled water. It was dressed alternately with Peruvian balsam and compound tincture of benzoin. The constitutional treatment was successfully

directed to allay a very harassing cough, by means of gum ammoniac mixture, ipecacuanha wine, syrup of Tolu, &c.

Feb. 12th. The report states: "The ligature came away quite easily in the dressings this morning; some old clots of blood and sloughs also came away with it; no hemorrhage; the incision is granulating. An abscess is forming behind the angle of the jaw on the left side, which part is swollen and painful. In the original abscess there is a quantity of sloughy matter, apparently the remains of the cyst, while anteriorly there is a hard, elastic mass projecting into the opening of the abscess, and presenting the appearance of a gland; the inferior maxilla feels quite denuded of periosteum, and scabrous. The man sleeps well; his appetite is good; bowels regular; pulse moderate; tongue very clean. To continue the treatment."

From the date of the operation to the casting off of the ligature, twenty days and a half elapsed; subsequent to this his general health continued improving in every respect, but the original local disease showed no great tendency to heal; on more than one occasion, it appeared to me to exhibit something of a malignant character, but was always devoid of pain. Small abscesses began to form, one in the left cheek, giving exit to healthy matter, another in the vicinity of the great left cornu of the os hyoides; while the one inferior and posterior to the angle of the jaw discharged large quantities of healthy purulent matter. As he exhibited some impatience at remaining in hospital, although availing himself of exercise in the garden, it was considered best to comply with his wishes, and, by permitting him to return home, observe the effects of change of air, not alone for the healing of the original, but also to prevent the formation of other abscesses. He was accordingly discharged on the 13th March, the following appearances being then noted: "The skin was of a livid colour, particularly behind the angle of the jaw, on the neck, below the arterial incision, and also under the chin. The cheek on the left side is much more prominent

than the right, commencing near the symphysis menti, extending backwards to the ear, and behind the angle of the jaw, upwards to a line drawn from the angle of the mouth to the meatus auditorius externus, and downwards to the arterial wound. The induration in the tumour is not so great, the parts being infiltrated, as it were, with purulent matter; the ulcerated opening is about the size of half-a-crown, its edges somewhat everted, and at its inferior part is a small eminence growing from the inside of the wound and covered with a yellowish slough; the surface of its cavity presents a granular appearance of a greyish colour, and its depth is about two inches and a half; the discharge is rather thin and scanty, of a light yellowish colour, and slightly fetid; when pressure is made under the chin healthy pus is discharged from the opening. The inferior maxilla is quite rough and bare, and the arterial incision is all but healed. The collateral circulation was beginning to manifest itself, as an artery, perhaps a fifth thyroid, could be observed pulsating and ascending along the mesial line of the neck."

While preparing this communication for publication, I was informed that this patient died on the 2nd of April last. On inquiring from his brother the particulars attendant on his death, and his condition since he left the hospital, he informed me that the ulcer diminished somewhat in depth, also in the circumference, and he never complained of pain in it; he suffered much from cough, and expectorated large quantities of a thin, ropy fluid; his dissolution was calm and tranquil.

The operation, in this instance, differed from that usually selected for securing the carotid, by cutting not along the anterior edge of the mastoid muscle, but *completely across it*, which enabled me to come down upon the artery in the easiest way, with a free gaping wound, experiencing no impediment either from the eighth pair of nerves or from the internal jugular vein. My reasons for adopting this innovation were the comparative shortness of the man's neck, and in order to obtain a sound portion

of the tegumentary membranes free from erysipelatous inflammation. In the subsequent steps of the operation this selection proved to be most fortunate, as it was discovered that the blood effused from the artery was extravasated as low as the cricoid cartilage; so that if the usual line of incision had been adopted, along the anterior edge of the sterno-mastoid muscle, the certainty is that I would have opened into the cavity formed by the effused blood, and would have found it almost impossible to have proceeded with the operation so as to tie the vessel. I would have been inundated with blood, and ultimately obliged to abandon it, and adopt that very unsatisfactory and doubtful practice of plugging the wound with sponges and compresses, to procure, perhaps, but a temporary continuance of life. Can I attribute the prevention of the return of the secondary hemorrhage, which occurred twice, on the thirteenth day and a half after the ligature had been applied, to the dressing with matico leaves, and compresses of lint saturated in an infusion of it? It is but fair to infer that such was the fact, and if so, it is a most valuable, and at the same time a most simple application for such a purpose. That the incisions made to secure the artery never showed the least sign of granulation till after the use of the matico, up to which period they exhibited a white, sloughy, inactive character, there is no doubt. As a styptic, I have found the infusion of this leaf most satisfactory in controlling the bleeding in persons of hemorrhagic diathesis. The transverse section of the mastoid muscle does not militate in any degree against its future use, as from our knowledge, derived from past experience, we know that the divided ends will become united.

In suspected communications between the vessels in the cervical region and purulent formations, the diagnosis and line of treatment must be determined before opening them with the lancet or otherwise, by the phenomena derived from the information afforded by the stethoscope,—which is not always unerring,—and by careful exploration; the diagnosis and prognosis must be formed upon these evidences, and we are to act

accordingly. But what should be the line of practice when hemorrhage succeeds the opening of an abscess in any of the cervical regions? No precise and definite one can be laid down; each case must, I conceive, be treated upon its own merits or peculiarities. In some cases laying open the cavity freely, and carefully plugging it with lint saturated in an infusion of matico leaves, and also dressing the surface with it, is useful. The lint should be secured with imbricated layers of adhesive plaster, and then all the dressings well supported by a carefully applied spica capitis bandage. This may succeed in finally arresting the bleeding. In other cases the only remedy left will be to tie the carotid. In the adult with a very short neck, and in children, whose necks are not yet fully developed, or are comparatively very short, the transverse section of the sterno-cleido-mastoid muscle will afford a most facile and ready preliminary step in our operation, enabling the surgeon to come down perpendicularly upon the vessel.

In none of the special works on operative surgery with which I am acquainted are any directions given for taking up the carotid artery as now detailed. I have been for some years in the habit of describing this operation in my lectures on operative surgery; and also of directing the attention of naval surgeons, who have performed a course of operations in surgery under my superintendence, to this operation. From the facility of securing the artery by the plan now proposed, I consider it deserving of a place in the systematic works in this department of surgery, and would term it the *transverse operation, or section of the sterno-mastoid muscle for the ligature of the common carotid artery.*

By selecting the carotid tubercle for the place of compression, a point, in many instances favourable to the surgeon, is afforded by it till more effectual means can be made use of for arresting the hemorrhage. Whilst the temporary compression is being made upon the tubercle, it should be directed a little towards the mesial line of the neck; for if it be made in the

opposite direction, it cannot be well borne by the patient, owing to the eighth pair of nerves being affected by it, and the return of the blood from the head will in some degree be influenced, as the internal jugular vein will suffer from the pressure when made in the external direction.

It is still a source of surprise how very little disturbance, cerebral or otherwise, follows the sudden arrest of at least one-fourth of the blood destined to circulate through the cranial cavity; in the instance here given the phenomena of vomiting and the two very severe but short rigors, are already detailed in the notes of the case. No appreciable effects were produced either upon the sensorium, or upon any of the organs of sense.

Art. III.—*Surgical Cases and Observations.* By John Hamilton, F. R. C. S. I., Surgeon to the Richmond Hospital.

FUNGUS HÆMATODES.

The duration of fungus hæmatodes is generally from three to four years; the patient either dies exhausted by repeated hemorrhages; the neighbouring glands and structures are contaminated; or important viscera become the seat of the same malignant degeneration. The following case is worth recording, on account of the extreme length to which the disease extended,—twelve years; the absence of any contamination of the neighbouring glands in the most inveterate of its stages during that long period; and for the part which the treatment had in prolonging life by keeping the hemorrhage in check. The patient was seen at different periods by Sir Philip Crampton, Sir B. Brodie, Mr. Travers, Mr. Cutler, Mr. Carmichael, and Mr. Smyly.

The Bishop of —— first consulted me on June 11th, 1841. At this time he was 70, and the disease was of four years' standing. In the right breast there was a tumour the size of a large egg, hard, and irregularly knobbed on the surface; the integu-

ments natural, except over the centre at the nipple, where, for nearly the size of a half-crown, they were of a purple livid red, and many small vessels were apparent on the surface. The skin at this part was extremely thin, and adherent to the tumour, which was freely moveable over the pectoral muscle; it was not painful. The growth, at first slow, had latterly become more rapid. When he consulted Mr. Travers two years before, he had recommended its removal, but Sir B. Brodie and Sir P. Crampton were against operating,—first, because, at his time of life, any operation was serious; 2nd, the growth of tumours in old people was slow; 3rd, the great probability of its re-appearing either at the place of removal or in some internal organ.

The increase, though gradual, was decided; the lobules of which the tumour was composed became discoloured, the more prominent and central ones of a livid red, and the vessels on the surface large and tortuous. At length some of the lobules became excoriated on the top, and discharged a bloody serum, with occasionally a smart bleeding; the excoriations were usually preceded by distinct vesications. They healed in a short time under the application of a solution of the nitrate of silver, and dressing with the white oxide of zinc ointment. About five years before his death the first alarming hemorrhage occurred from the giving way of a large superficial vessel which traversed one of these abraded surfaces. It came on after breakfast, and he was unconscious of it till he had lost much blood, the feeling of something hot running into his breeches and stockings being the first intimation. I found him deadly pale, and very faint; his shirt, a towel, and a sheet which had been applied to stop the gush of blood, were completely saturated. After this he was so nervous about hemorrhage that he resided chiefly in Dublin or its vicinity. This loss of blood was followed, besides much prostration, by a fit of the gout (a sequence frequently observed afterwards), and one of the lobules, the size of a small apple, turned first ash-coloured, then black, and finally separated, leaving a cavity which continued foul for

some time, and its separation was attended with a thin, fetid discharge. Other lobules would from time to time, in like manner, die and slough off. The cavities, thus left at first foul and sloughy, became clean and granular, and were filled up partly by granulations, and partly by the gradually enlarging neighbouring lobules pressing in and encroaching on the space. This death and separation of individual lobules became more frequent, so as at one time to diminish considerably the otherwise rapidly increasing tumour. *At no time did a fungus shoot forth.* When part of a lobule had died and separated, the remaining portion showed the mass to be composed of a shreddy, spongy substance, or a structure resembling brain, but firmer. Smart bleedings came from these cavities, usually from the edges near the surface, but some of the worst hemorrhages were in consequence of the large purple vessels which traversed the surface of the tumour becoming abraded, and giving way at the point of abrasion. Though they bled furiously, the bleeding was very easily controlled; the vessels seemed to partake of the properties of vein and artery, something intermediate between both, spirting blood in a jet like an artery, and frequently quite florid, but having their coats unlike the contractile elastic coat of arteries. Hemorrhage from this cause, viz., abrasion of large superficial vessels became latterly more frequent, in consequence of the sides of the tumour projecting considerably beyond the base; the under surface of the projecting portion rested on the skin, and became abraded by the friction from the motion of the tumour, which was free to the last. One such bleeding was so sudden and so large that he fainted, had a convulsion, and became quite pulseless, so that I thought life was extinct; gradually, however, the action of the heart and consciousness returned, and he lived for nine months after. During the faints attending these losses of blood, the contents of the stomach were vomited, and the urine and fæces passed involuntarily. The last hemorrhage, which occurred ten days before his death, and caused it, proceeded from

the abrasion of one of the large superficial vessels at the upper part of the tumour. It came on suddenly after breakfast, and, as I was not at home at the time, Mr. Smyly saw him, and arrested the bleeding. On arriving an hour afterwards, I found him deadly pale, and nearly speechless. He rallied a little, but it then became obvious that he laboured under paralysis of the left arm and leg, side of the face, and of speech. As paralysis takes place from want of blood in the brain, where both carotids are tied, so, in this case, it occurred from the sudden deprivation of a large quantity of blood from the brain, as, on a former occasion, the same cause had induced convulsions(*a*).

Another distressing feature was, that for the last few days he had every three or four minutes violent spasms of the paralytic leg, which would forcibly contract it, and raise it in the bed. They gradually subsided with his decreasing strength. He lay comatose for two days before death. He was seventy-eight years old, twelve of which he had borne the tumour. For the last few months it presented the following appearances. It occupied the right mamma, and extended from near the sternum to a short distance from the axilla, nearly two spans from side to side, and one from above downwards.. It was prominent, and the border below considerably overlapped the base. It was divided into many small lobules, varying in size from a small apple to a chesnut, generally of a purplish or livid pink colour, with many small vessels apparent on the surface. There was in its centre, and extending laterally in an irregular man-

(*a*) Some years since I saw an interesting case which bears on this point. A man was admitted into the Meath Hospital, under Dr. Graves, with paralysis of the right side and of speech. Two days after he was discovered to have a thoracic aneurism, shortly after which he died. My friend, Dr. Hudson, of Navan, and myself, examined the body, and found the aneurism to be one of the arteria innominata, but the roots of the left subclavian and carotid, as well as the right subclavian and carotid, were nearly obliterated by steatomatous thickening of their coats. The caliber of the vertebrals was also diminished by the same cause, so that the supply of blood to the brain must have been small indeed.

ner, a deep ulcerated cavity, with somewhat sloughy surface and overlapping edges, discharging profusely a fetid, thin, bloody, purulent fluid: here and there other small ulcerated cavities existed, where lobules had sloughed away. *None of the neighbouring glands were enlarged*, and, strange to say, he suffered comparatively little pain, the distressing circumstances being the large bulk of the tumour, rendering peculiarities of dress necessary, but chiefly the profuse discharge, which it was difficult to absorb, to prevent its saturating the clothes, and becoming offensive. As I believe the fatal termination to have been retarded by the mode of dressing adopted for the last few years, I shall venture to detail it, thinking it possible that it may be advantageously used in other cases, modified according to the judgment of the practitioner.

The ulcerated cavities were first well washed with a weak tepid solution of the chloride of lime, then brushed over with the tincture of matico. Every ulcerated or abraded surface was covered with a well-pressed layer of the fuzzy part of lint, prepared by scraping off the dressed side of it. A supply of this, prepared by Mr. Moore of Anne-street, was always kept ready, as it was found the most certain material for stopping bleeding. Over this layer, the cavities were filled with French wadding, as otherwise too much of the fuzz of lint would have been used, economy in this respect being necessary, as its manufacture was tiresome and only a small quantity could be got from much lint. The French wadding was not found to answer well by itself; it was too elastic, and did not therefore preserve a close firm contact with the unequal ulcerated surfaces, besides it stuck so closely that blood always followed its necessarily forcible removal. A piece of lint, spread with white oxide of zinc ointment, was next applied. To keep up a steady pressure, and preserve these dressings in their places, straps of kid leather, two inches broad, prepared with soap plaster only at their extremities, were put across the tumour in various directions, and formed a complete cover for it. The essential parts of this

treatment were, first, the fuzz of lint, which is one of the best materials to stop hemorrhage, particularly when there is a general oozing from the surface(*a*), or where vessels do not admit of ligature; secondly, the straps, the steady pressure of which was most useful. By these means, the bleeding from the extensive raw and highly vascular surface was rendered comparatively small, the most fatal hemorrhages having resulted from the giving way or abrasion of the large vessels on the surface.

Another form of fungoid disease is that in which the tumour, though large, is not divided, as in this case, into lobules, but consists of a membranous cyst filled with a brain-like matter, rather white, streaked by blood-vessels, or discoloured by effused blood. This has been termed medullary sarcoma(*b*). The following is a good example:

Anne Kavenagh, aged 18, admitted into the Richmond Hospital, December 5, 1847. Had been always healthy, till three months ago, when, in coming down stairs, she sprained her right leg. It did not swell or become painful till a fortnight after; she then, while walking, felt a pain darting through the leg, particularly severe at the upper part. She has suffered from it ever since so severely at night as to deprive her of sleep during the first part of the night. At the same time a swelling was observed on the outside of the upper part of the leg at the head of the fibula, which has increased rapidly since, and at present rather more than the upper third of the leg is occupied by a considerable swelling, uneven on the surface, elastic, especially in front, where it simulates deep-seated fluctuation; elsewhere it feels more solid. Numerous small veins on the surface give it

(*a*) I used it with the most perfect success in a case of secondary bleeding after amputation of the arm, when there was a general flow from the surface, after a long time had been ineffectually spent in trying to repress the hemorrhage by the resident pupil, who had tied several vessels in vain.

(*b*) See "Inquiry into the Nature of Parasitic Tumours in general, particularly those called Medullary Sarcoma and Fungus Hæmatodes." Translated from the German of E. J. Meyne, M. D.

a bluish tinge, otherwise the integuments are pale and natural; there was no tenderness on pressure; and the motions of the foot do not affect it. The superior portion of the fibula seems lost in its anterior half, but the great bulk of the tumour is behind, occupying the upper part of the calf; no pulsation; the ankle slightly œdematous. Three weeks since, the tumour being soft and elastic, and the sense of deep-seated fluctuation so strongly deceptive, and it had so much the character of chronic abscess, that a small caustic issue had been inserted over the most prominent part of the swelling; this had now nearly skinned over. She has no cough or symptom of internal disease.

Although the impression was strong in my mind that the tumour was malignant, yet as the serious question of amputation was involved in the positive decision of its real nature, I passed a capillary trocar and canula into the most elastic part; nothing came but black fluid blood: this, coupled with the other circumstances of the case, demonstrated it to be a malignant tumour. My colleagues having concurred in this opinion, I removed the leg above the knee, by the circular incision, on Wednesday, December 22nd. As she was a young woman in a respectable rank of life, and very timid, I wished to spare her the distress almost inseparable from the presence of the usual crowd of spectators, and therefore adjusted the tourniquet in the room next to the operation theatre, and put her into an insensible condition by chloroform, which was accomplished in a few seconds by sprinkling about three drachms on a towel folded into a hollow cone, and held under her mouth and nostrils. In the state of insensibility she was carried into the theatre, and it was kept up during the operation by holding the towel occasionally under the nose. Before commencing the amputation, to prevent the possibility of error, a deep puncture was made into the tumour with a strait bistoury; a large stream of black blood gushed forth. The leg was then rapidly removed, and she only regained consciousness, and asked if it was off, as she was being carried out of the theatre. Except a slight exfoliation of bone,

nothing material occurred, and I have heard from some friends who saw her in the country a few days since (May 21, 1849), that she is now quite well.

Examination of the removed limb showed the tumour to be formed by an expansion of the upper third of the fibula into a swelling the size of a cocoa nut, perfectly enclosed by a strong fibrous cyst, and containing a white substance of the consistence of softened brain, here and there a little blood-shot. A few spiculæ of bone were felt on its surface next the inside of the fibrous cyst. These spiculæ were the only remains of the upper part of the fibula, which had otherwise entirely disappeared, the morbid growth seeming to have sprung from the centre of the bone, which it gradually destroyed, expanding the periosteum before it, which, thickened and extended, became its cyst. The end of the fibula, as it entered the substance of the tumour, was like a broken bone, irregular and spiculated. The peroneal nerve, flattened, and in a state of tension, passed directly across the surface of the tumour; a fact that explains the great pain she felt, so unusual in tumours of this class. The gastrocnemius and solæus muscles were also found expanded on the surface of the tumour and very attenuated; they had undergone a material alteration, and one of the peroneal muscles was infiltrated with fungoid matter. The vessels were healthy.

Fungoid tumours occur more frequently in the head of the tibia than in the fibula. For some reason not yet satisfactorily made out they often pulsate strongly, and when they project backwards in the popliteal space the pulsating tumour is naturally at first taken for popliteal aneurism. The progress of the case generally soon dissipates this error. I have seen them in the head of the tibia without pulsating, projecting in front, elastic, soft, and with that pseudo-fluctuating feel, which, though we so readily blame others for mistaking, we must confess to have more than once deceived ourselves. I have seen a surgeon, confident that a tumour of this kind contained matter, make a free opening with an abscess lancet, and then only become

painfully aware of his mistake by the protrusion of a red currant-jelly-looking mass. When the tumour is large, nodulated, and the surface permeated by large vessels, the diagnosis is sufficiently simple; but in an earlier and more doubtful stage, when amputation is most advisable, before the glands in the groin are contaminated, or before the disease has opened into the knee-joint, it is well to have some means of diagnosis less fallacious than the touch. I do not think there can be any objection to making an exploratory puncture with a small trocar and canula. If the exit of pus proves it an abscess the opening can be enlarged; if only a bloody fluid flows out, its malignant nature may be inferred; but I should not feel satisfied unless, immediately before amputation, I had made a free puncture with a straight bistoury, as I did in this case. We must be on our guard against the occasional fallacy of the small exploratory needle and canula of Weiss: we must remember that deep-seated matter, under strong fasciæ or fibrous membranes, is usually very thick. A familiar example of this is observed in deep-seated whitlow, where the matter is more like thick curd than pus. A young man was admitted into the Richmond Hospital with very severe pain at the upper part of the hip, a little below the anterior spine of the ilium; he had fallen down a ladder about a week before, and struck this part in falling. There was a very deep-seated diffused tumour, extremely tender; he had high fever and sleepless nights. The natural conclusion was that there was matter, but it was too deep to be positive, and I therefore made an exploratory puncture with Weiss's long needle and canula. Nothing but blood came. A second puncture produced nothing more. Not satisfied, I plunged in a straight bistoury, and thick yellow matter gushed out.

Brian O'Brien, a man forty years of age, was admitted with idiopathic inflammation of the right testicle. Though it was only of four days' standing, the symptoms were so violent that I diagnosed suppuration to have taken place. An exploratory

puncture was made with the needle, but blood only came through the canula. Confident, however, in the correctness of my opinion, I made a deep puncture with a bistoury, when thick yellow matter flowed freely forth. These cases prove that the negative evidence of the needle and canula is not always conclusive when the matter is very thick.

Art. IV.—*A Report upon the Use of Chloroform in fifty-six Cases of Labour occurring in the Dublin Lying-in Hospital.* By John Denham, M. D., Ex-Assistant Physician to that Institution.

[Read at the Dublin Obstetrical Society, 4th January and 12th March, 1849.]

In the year 1799, Sir Humphrey Davy, while boldly experimenting on himself, discovered the curious properties of nitrous oxide gas with which we are now so familiar.

In the Quarterly Journal of Science for 1818, we have an account of the effects produced by the inhalation of ether; and in the same article there is notice of a case where the incautious use of it was followed by very alarming symptoms.

In 1844, Mr. Horace Wells, an American dentist, had a tooth extracted from himself, and performed the same operation on others, without pain, while under the influence of nitrous oxide gas. He communicated the result of these experiments to Dr. Morton of Boston, who, in 1846, extracted a tooth from a patient while under the influence of the vapour of ether, and who declared that he was totally unconscious of its removal.

The value of this fact, which has lain so long dormant, having been thus discovered by our transatlantic brethren, its fame soon reached our shores, and it now ranks as one of the greatest improvements in operative surgery since the introduction of the ligature.

In January, 1847, Professor Simpson of Edinburgh administered ether for the first time in midwifery practice, and the

result, he states, was most satisfactory and most important. In November following, at the suggestion, it is stated, of Mr. Waldie, of Apothecaries' Hall, Liverpool, he employed a new anæsthetic agent (chloroform), which has since been almost exclusively used in surgery and midwifery.

Such is a brief outline of the history of anæsthesia. However much it may advantage the public, I fear it is destined, like many of our great discoveries, to prove an apple of discord to our profession. Some consider it of so little value that they will not even give it a trial, and in reply to the praise bestowed upon it, are ready to exclaim,—"a mountain in labour, a mouse is brought forth." Others, again, while they do not entirely exclude it from practice, have drawn such a fearful picture of the evils likely to arise from its use, as to deter the boldest practitioner from ever having recourse to it, even in circumstances the most inviting. "Apoplectic stertor, convulsions, partial paralysis," the blood blackened, the brain poisoned, and other still more formidable consequences, are amongst the number of the dangers mentioned as liable to be induced by the state of anæsthesia. A third class of practitioners, those in favour of chloroform, pronounce it to be a panacea for all the pains and penalties of childbed, and would have us believe that it not only insures the parturient patient a release from all present suffering, but escape from all subsequent danger, so that the dread of parturition may be for ever swept away from the list of objections to the married state among women.

During the later part of my residence in the Dublin Lying-in Hospital, as assistant physician, Dr. Shekleton, the present Master, with that laudable desire to advance the interests of the profession, and mitigate the sufferings of his patients, which has ever marked his course through life, requested me to carry on a series of observations upon this important and much-disputed question; and it is, therefore, to his kindness that I am indebted for being able to make the present communication. I may remark, in passing, that the subject was taken up without

the slightest intention of making out a case either for or against the use of chloroform. To discover where the truth lay was our only object; if in addition to this we are enabled to reconcile some of the conflicting opinions, remove preconceived notions and prejudices, and expose some errors into which those who are perhaps too enthusiastic in their praise, and too indiscriminate in their use of anæsthetic agents, may have fallen, we shall have more than accomplished what we propose.

I approach the subject with diffidence and fear. With diffidence lest I may appear opposed to men whose opinions I have been at all times accustomed preeminently to respect; with fear, from a consciousness of my inability to do justice to the subject, and being deeply impressed with the responsibility that attaches to him who would take up the discussion of so important a question. I am encouraged, however, by the circumstance that I have principally to deal with facts, and give the result of cases noted with the greatest care and accuracy, and taken, moreover, in the presence of many intelligent pupils, whose anxiety to arrive at the truth renders this report, if not conclusive on the subject, at least worthy of credence.

The patients on whom the observations were made were generally healthy, but in no instance did we select them as being likely to prove favourable or the reverse to the use of chloroform; nor did we in any case administer it where we had reason to suspect the existence of organic disease in any vital part. We gave it:

1st. To produce insensibility during operations.

2nd. To relieve intensity of suffering.

3rd. To quiet particularly noisy patients.

4th. By way of experiment, in ordinary cases, where we had no very definite object in view.

If asked to define anæsthesia, I think we might fairly describe it as a scientific form of intoxication, the effects of which very soon pass away. It may, therefore, be questioned, how far we are right, in a moral point of view, in producing such a

state, even for the purpose of allaying pain. The scriptural objections have been so fully answered by others, that it is unnecessary to dwell upon them here.

The object proposed in giving it, in operative surgery and midwifery practice, is in some respects the same. In both we administer it with a view of saving our patients a certain amount of pain, and lessening the shock of an operation, or that consequent on the birth of the child; this is not only a present advantage, but it generally exercises a happy influence on the recovery of the patients.

In both cases we incur a certain amount of present danger, and, perchance, of remote ill effects. That there is present danger, the history of surgical cases, where it has been used, fully proves; but it is a remarkable fact, that scarcely one well-authenticated, immediately fatal case in midwifery practice has yet been recorded,—certainly not one has occurred in this country,—nor have we witnessed any very alarming symptoms directly traceable to its effects, when administered for this purpose. With the remote ill effects in surgical cases I am not conversant; but so far as my experience goes, I know of none in midwifery, either to mother or child. We have further to consider its direct and immediate influence on the process of parturition, which brings us directly to the object of this paper.

When a patient in labour is first brought under the influence of chloroform, it will generally be found that the pains are diminished in force, frequency, and duration. After some time they generally regain much of what they had lost, and though apparently weaker, they yet seem to tell with equal or even better effect upon the progress of the labour. The muscles of animal life are first affected, and if a complete state of anæsthesia be induced, the action of the uterus is also impaired. If the chloroform be suspended for a short time, both sets of muscles soon regain their usual power. The effect upon the sensorium is very variable; some pass rapidly into a state of insensibility, while others become boisterous and difficult to manage; but in all who can be induced to use it sufficiently

long, it appears to mitigate the feeling of pain, to modify the impression, or remove the recollection of it. The pupils remain natural during the first or excitable stage, but when anæsthesia is fully induced they almost invariably become dilated. Of its effects upon the os uteri I cannot speak very confidently, as we seldom gave it in the first stage of labour; so far as I have seen, however, I believe it does not retard, but rather tends to promote dilatation of it. That the vagina and os externum become relaxed there cannot be a doubt. We did not remark the perinæum to yield more in proportion than the other soft parts. In no case did we witness injury to the child, even in the remotest degree.

The cases of natural labour, in which chloroform was administered in the Dublin Lying-in Hospital, may, I think, be divided with advantage into three classes:

1st. The ordinary every-day case, in which the labour was short and comparatively easy, and where the patient would have soon got well whether we gave it or not.

2nd. Cases where some interference was necessary, and where the chloroform was given with marked advantage, causing the labour to advance, while at the same time it saved the patient from a very considerable amount of suffering.

3rd. Cases in which the chloroform appeared to be not only useless, but, when persevered in, positively injurious. I shall give a few cases in detail illustrative of what has been said, and conclude this part of the subject with some general remarks upon each of the three classes just alluded to.

CASES OF SHORT AND EASY LABOUR.

Case I.—Anne Flood, aged 30, a stout, healthy-looking woman, admitted into hospital in labour of her fourth child. The chloroform was not administered until the second stage of labour had commenced; she soon became affected by it, and although there was very little muscular effort, still the labour went on favourably, and she was delivered of a male child just

one hour from the time she became insensible. She had a good recovery, and went home well on the eighth day.

Case II.—Ellen Carroll, aged 26; fourth pregnancy. Her labour set in at 5, A. M., the waters coming away nearly at the same time. At half-past 8 the os was fully dilated, and at twenty minutes past 9 the head was pressing; pains strong, with intervals of two minutes; pulse 96. She was now put under the influence of chloroform, and the child was born forty minutes after. While in anæsthesia the intervals were lengthened, and the pains became somewhat weaker, but the three or four last were very strong indeed. The intervals were one minute, four, eight, four, six, three, and one, making an average of three minutes. She had an excellent recovery, and went home well on the eighth day.

Case III.—Ellen Doyle, aged 27; third pregnancy. On admission the os was fully dilated, and the membranes ruptured. She was very easily thrown into a state of anæsthesia, and the labour was completed in little less than one hour after. She was only five hours ill, and had a most excellent recovery.

Case IV.—Eliza Hill, aged 30, third pregnancy. Labour set in at 2, A. M., and the first stage was completed at 10 o'clock. Observations were taken from twenty minutes after 10 till twenty minutes after 11, during which the occurrence of the pains averaged from two to three minutes, and were, with scarcely an exception, strong and effective. At twenty minutes past 11 she was put under chloroform, when the intervals became lengthened, and the pains weaker; after some time they again increased in frequency, but not in force. I shall just give a few of the notes taken at the time: "Some wandering; anæsthesia fully induced in ten minutes; pains very slight; head advancing; no voluntary action; small scalp tumour protruding between labia at each pain. Twenty minutes after 12, pains very weak. Thirty-seven minutes after 12, pains stronger, but with very little advance to labour. Forty-five minutes after 12, chloroform discontinued; some voluntary action; bearing-down pains; chlo-

roform resumed; patient very completely under its influence. Thirty minutes after 1, head expelled; child born; placenta came away twelve minutes after; uterus contracted well." She was aware of the birth of the child, but felt no pain; recovery good; went home well on the eighth day.

Case V.—Ellen Hicks, aged 22, delivered while in a state of anæsthesia; the pains were diminished both in frequency and force, but the labour was short, and terminated favourably. She went home well on the eighth day.

Case VI.—Julia Dolan, aged 30; second pregnancy; history same as the last; her recovery was also good; and she was discharged well on the eighth day.

Case VII.—Catherine Flynn, aged 24, first pregnancy; labour commenced at noon on the 17th, and the first stage was completed at 9, A. M., on the 18th; the pains were then strong, lasting for about a minute, with an interval of six; pulse 120. At forty-five minutes after 9, chloroform was given, and in five minutes it produced great excitement, with some nausea; pulse falling to 108. At ten minutes past 10 anæsthesia fully produced; vomited some bilious matter; had a slight rigor at thirty minutes after 10. She was now kept only partially under chloroform; her consciousness returned, and she answered questions correctly. 11 o'clock, chloroform entirely stopped for a while; pains much stronger; complains of thirst; head now distends perinæum at each pain. 12 o'clock, chloroform again given, but not to the full extent; some voluntary muscular action; pains more effective; cries out with them, but sleeps calmly in the intervals. Thirty minutes after 12, more completely under chloroform; head expelled by a very sudden strong pain, without a cry; birth completed at thirty-eight minutes after 12, by another pain: placenta came away, and was followed by some hemorrhage. This patient was three hours all but seven minutes under the influence of chloroform, but not completely, as she was quite conscious of the birth of her child,

but declared that she felt no pain. She recovered favourably, and was discharged on the eighth day.

Such is a brief outline of a few cases of natural labour, where, the parts being soft and cool, while, at the same time, there was an abundance of room, the patients were "made well" while under the influence of chloroform, with a very happy effect. Five of them denied all consciousness of pain, and several of them were ignorant of the time when their children were born. Doubtless, these women, if left to nature, would have had an easy and safe delivery, followed by a good recovery, and in some the labour would probably have been completed in a somewhat shorter space of time; but, on the other hand, we cannot, we ought not, to conceal from ourselves the fact, that they escaped a considerable amount of pain and mental anxiety, and that they all had good recoveries, without a single bad symptom, either at the time or subsequently.

The following cases are examples of the second division of natural labours which we have made, and in which the good effects of chloroform were more decidedly evident.

Case VIII.—Catherine M'Loughlin, aged 18. She had been twenty-one hours in labour before admission; on examination the head was found low in the pelvis; the pains were almost constant, but the labour was not making much progress, nothing at least in comparison to the severity of the pains, each of which were accompanied with loud screams, and constant complaints of intense suffering; pulse in the intervals only 72. Chloroform was administered, and she was kept completely under its influence from seven minutes after 9 till thirty minutes after 10, when her child was born; in fact, the moment we relaxed in the slightest, she became so violent and unmanageable as at once to require a repetition of the chloroform. I shall give a few of the notes taken at the time: "Pulse 72, intermitting; stertor in four minutes from first inhalation; in seventeen minutes pulse rose to

94, regular; complete anæsthesia in forty minutes; pulse 120 during the pain; awoke and struggled violently; chloroform resumed at sixty minutes; pains short and strong; at one hour and thirty minutes, struggling violently again, more chloroform given; each inspiration is followed by an expulsive effort; child born in ten minutes after; placenta was soon expelled; no hemorrhage. In half an hour after she was perfectly sensible, and expressed a total unconsciousness either of pain or the birth of her child." She recovered without a single bad symptom, and went home well on the eighth day.

Case IX.—Julia Dolan, aged 30, second pregnancy. The first stage of labour passed over quickly, but she was restless and fretful, complained much of her back, and bore her pains, which were now constant and strong, badly; they averaged three in every five minutes. She remained in this state for several hours, without making any perceptible progress, the head still remaining high up. She was now put under the influence of chloroform, but with some difficulty; eighteen minutes elapsed before it took any effect, during which she inhaled two drachms; she now talked incoherently, and became insensible, but without any approach to stertor. The pains diminished both in frequency and force, while the labour rapidly advanced, and the child was born just one hour from the time she commenced the chloroform. Pulse 80 during the time of inhalation; immediately after the birth of the child, it fell to 70. The pains, before the chloroform was given, averaged one in less than every two minutes; while under it, the intervals, with one exception, were from five to ten minutes. The quantity of chloroform consumed was very large, six drachms in the hour. She had no pain during the time, and knew nothing of the birth of her child: she went home well on the eighth day(*a*).

(*a*) Since writing the above I met with a case in private bearing upon this part of the subject. I was sent for to attend Mrs. B., who told me that her labours were always tedious and severe; she had been complaining for several hours before I saw her. I found the os fully dilated, and the soft

The patients in this form of labour are often of a nervous temperament, with great irritability of fibre. The delay does not arise from inertia or disproportion, and yet, although the pains are severe and constant, the labour is tedious. The prospect in such cases is by no means cheering; hours of anxious waiting, during which we are importuned by the friends, and perhaps unnerved by the sufferings of our patient, generally ensue. In such cases chloroform will be found a very valuable remedy, particularly when the delay is in the second stage.

Opiates, it is true, often benefit such cases; but to insure their effect they must be given in large doses, when they generally produce a complete suspension of all uterine action, perhaps for hours, while we can regulate the giving of chloroform so as only to allay the irritability of fibre, and quiet any unusual suffering, without interfering for any great length of time with the progress of the labour. In the cases here given, it will be seen that the pains, while apparently diminished in frequency and force, yet produced a better effect, and hastened on the labour.

We now come to the third class or variety of natural labours, namely, that in which chloroform appeared to be not only useless, but, when persevered in, positively injurious. I shall mention a few cases illustrative of this point.

Case X.—Margaret Coyle, aged 30; fourth pregnancy. On admission the os uteri was fully dilated; pains very strong and severe, but with little advance. She states that all her former labours were tedious and severe. She was put under the influence of chloroform, but the pains soon became weak, and at the end of an hour ceased entirely; the chloroform was now

parts relaxed, with a good roomy pelvis. As the pains were strong and regular, I began to congratulate myself upon a speedy release, but in this I was disappointed, as the labour scarcely made any advance. After several hours the head passed into the pelvis, but the cramps in the leg were now so severe that her screams were heard over the whole house. She was, therefore, put under the influence of chloroform, and with the happiest effect, as it not only put a stop to the cramps, but caused the labour to advance much more quickly.

left off, soon after which the pains increased to such a degree that we began to dread rupture of the uterus, especially as one of her former labours had been instrumental. She was, therefore, again put under the influence of chloroform, when the pains subsided, and she was safely delivered by the forceps; child living; no hemorrhage; recovery good. It is worth remarking that she had a rigor on both occasions immediately after recovering from the state of anæsthesia; but no other constitutional disturbance followed, nor did the rigors in the least seem to retard her recovery. It is the only instance of the kind we met with, and we are therefore inclined to look upon it as an idiosyncrasy.

Case XI.—Eliza Lawler, aged 23; first pregnancy. On admission the os was nearly fully dilated, soft parts relaxed, pelvis normal; pulse 66 in the intervals, 90 during the pain; pains constant and regular. The state of anæsthesia was soon induced, and easily kept up, as she only required four drachms of chloroform in two hours. In twenty minutes after she began to inhale she appeared to be almost in a state of coma; some cold water was then sprinkled on her face. The pains gradually diminished, and at the end of two hours had almost entirely ceased. The chloroform was now discontinued, when the pains again returned with considerable force, and the child was born in half an hour from the time she ceased to be under the influence of it. On being questioned afterwards she stated that she remembered everything that had been done to her, such as the cold water being dashed on her face, her feet being pricked and tickled, &c.; says that she slept very little during the time, and doubts whether she would wish to have it again or not.

Case XII.—For the notes of this case I am indebted to Dr. Shekleton; it is taken from his private case-book: "I was called in October last, six miles from town, to see Mrs. R., in her first labour, then under the care of a medical gentleman in the neighbourhood. He informed me that his patient had been in the hands of an ignorant midwife for upwards of twenty-four hours

before he saw her, and, finding what the case was, he sent for me immediately. On going up the avenue leading to the house, I distinctly heard the lady's screams, and fancied she was on the eve of getting well; on examination, however, I found it was a face case, the chin partly protruded, and looking towards the pubis; the features of the child were so swollen and distorted by the rude fingering of the midwife, that, except for the chin, they could not be recognised; the vagina was hot and tender from the same cause; and the perinæum hard and rigid, partly owing to the advanced age of the lady, 36, and to her habit, perhaps, of hunting regularly during the season. The pains were powerful, and evidently advancing the labour, though slowly. Instrumental assistance, from the state of the parts, was out of the question, and I determined to try the effects of chloroform, to mitigate, if possible, her agonizing screams, which accompanied every pain. She was speedily under its influence, talked at first of hounds and horses, and laughed immoderately, and it decidedly put an end to her expressions of agony; but the labour pains nearly ceased, and for two hours and a half that I kept her in a state of anæsthesia more or less profound the child never advanced. I therefore finally abandoned it altogether, and with the happiest results, for the pains speedily resumed their efficacy, the screaming never returned, and the child was born alive in three hours from the time the chloroform was relinquished.

Case XIII.—Mary Sheehan, aged 28; first pregnancy. She was put under the influence of chloroform when in the second stage of labour, the pains at the time being regular and the child advancing; at the end of fifty-three minutes we were obliged to discontinue it, as the pains had almost entirely ceased. Soon after this they again returned, and the child was born in two hours; the placenta soon came away; but at the end of six hours after delivery there was some hemorrhage, not, however, to any extent. Her recovery was tedious, and she did not leave the hospital until the twenty-fourth day.

Case XIV.—Margaret Johnson, aged 31; fifth pregnancy; arm presentation. She was put under chloroform, when turning was effected with great ease; uterine action was completely put a stop to, and did not return after the feet were brought down. We were, therefore, obliged to discontinue the chloroform; the pains soon returned, and the labour was completed in a short time. Child born alive; no hemorrhage. Discharged well on the eighth day.

Cases of this kind are generally met with among what are termed difficult labours; painfully difficult to the patient, and often distressingly tedious to the practitioner, requiring an amount of experience and patient perseverance greater than any other in the whole range of obstetric practice. It is not deformity, but disproportion, with, perhaps, rigidity of the soft parts in first cases, that we have principally to contend with. The pelvis will be found somewhat under-sized, or the head of the child may be either too large or too much ossified. The advantage to be gained from the chloroform in such cases will not be found an adequate compensation for the loss of power sustained in the muscles of animal or organic life; and were we to continue its use, I do believe that the patients would remain (doubtless in a state of blissful oblivion) undelivered for hours, or even days. It may, however, be fairly argued,—"why not give it a trial? The delay may, perhaps, arise from rigidity, or some slight amount of disproportion; and even should the pains be weakened, or put a stop to for a time, yet no other injury is likely to arise, while some of the cases given clearly go to prove that the pains, though weakened at first, yet came on more vigorously, and with better effect, after the use of chloroform than before." This we admit, but, confining ourselves to the immediate and direct effects of anæsthetic agents, I think we are warranted in coming to the conclusion that chloroform, if persevered in, will sometimes prove not only useless but positively injurious.

Such is a brief outline of fifteen cases of natural labour, in

which chloroform was administered; and I think we are taught by them that it will be found applicable to many cases, useless in some, and injurious to a few. I am persuaded we have much to learn upon the subject; much to learn (apart from all professional notoriety and eclat) as to when we should begin to administer it, and when refrain from its use; what the best mode of using it, and how great the quantity that may be given, so as to mitigate the sufferings of our patients, and yet not interfere with the progress of the labour; much, in fact, to learn as to the cases in which it will be found not only admissible, but really useful; not to speak of the question of time, so important, so intrinsically valuable, to the medical practitioner. If the question be put,—do you use chloroform in all cases of natural labour? I answer, certainly not; first, because many labours are so rapid, and attended with so little pain, that either it is unnecessary, or there is not sufficient time to produce the desired effect. It not unfrequently happens, that the child is born before the medical attendant can possibly reach his patient.

Some women object to its use, and unless there be a very urgent necessity, I think we should never press it on an unwilling patient, for, should any untoward circumstance arise, the chloroform will be sure to get the credit of it. In the next place, the cases that apparently require it most,—tedious and difficult labours,—are those where it often appears to be injurious, by weakening the pains, and relaxing the muscles of animal life. But, on the other hand, I must say that I have never met with a single untoward circumstance affecting the health or life of either mother or child, that would in the slightest degree deter me from giving it where I thought it desirable or necessary. I have never witnessed any of the dreadful evils described by some writers as consequent upon its use; I have never seen the blood blackened, or the brain poisoned; nor has it ever, in my hands, induced convulsions, partial paralysis, or other still more formidable consequences; and until it does I

will consider myself justified in still further investigating the subject, ever bearing in mind the maxim of Lord Bacon, that the labours of all who think ought to be to multiply human enjoyment and to mitigate human suffering; and that, for this purpose, we must observe and reason only from what we see.

We have yet to give the result of our experience in preternatural, instrumental, and complex labours; and this part of the subject I approach with much more of pleasurable feeling, because that here I anticipate no difference of opinion, nor will we require either eloquence to adorn or argument to enforce the practical points to be elucidated; the mere recital of the cases will, I am sure, carry conviction to every candid mind.

PRETERNATURAL LABOURS.

Preternatural presentations of the upper extremities are at all times dangerous, as they call for a difficult and hazardous operation, involving, perhaps, the life of both mother and child; an operation which the most experienced practitioner undertakes with no small degree of anxiety, deeply impressed, as he must be, with the responsibility thrown upon him at such a time. It requires judgment and skill to know how to conduct such a case, when to interfere and when to remain passive; and he who undertakes it requires a clear head and a steady hand. How sad the fate of a patient in such circumstances who falls into the hands of a bold, untaught practitioner, who, ignorant of the dangers by which he is surrounded, and unmindful of the sacred charge committed to his trust, blindly rushes on to his own disgrace and the ruin of his hapless victim. How should we rejoice in the prospect of any remedy calculated to lighten the difficulties and lessen the dangers by which every such case is surrounded. Such an agent I believe chloroform to be; for if there is one operation more than another, in the whole range of midwifery, in which it is highly useful, it is that of turning; and if the discoverer of it accomplished nothing

more, he has by this alone conferred a great benefit upon mankind, and largely earned the gratitude of his profession.

Case XV.—Margaret M'Cormick, aged 22; second pregnancy. Two days ago she was suddenly seized with a severe flooding, which again came on early this morning. On examination it was found to be a case of partial placenta prævia, and as there was still some hemorrhage, the membranes were ruptured. At the end of six hours the os had considerably dilated, but the head was very high up, and, as there was still some draining, which greatly exhausted the patient, she was put under the influence of chloroform, and delivered by turning, with great ease. The child was still-born, she had no after hemorrhage, and her recovery was good, considering the amount of blood lost; she went home well on the sixteenth day.

Case XVI.—Martha Reddy, aged 24; fifth pregnancy; a twin case. The first child a head, the second a shoulder presentation, but the pains were so strong and frequent in the latter, that I found it impossible to introduce my hand. She was now put under the influence of chloroform, when all became passive, and turning was accomplished with the greatest possible ease, the child being born alive. She had no hemorrhage, and went home well on the eighth day.

Case XVII.—Anne Donelly, aged 34; fourth pregnancy. Elbow presentation; she was put under the influence of chloroform, and delivered by turning; child alive; no hemorrhage; discharged well on the eighth day.

Case XVIII.—M. M'Guiness, aged 27; second pregnancy; twin case; the first child presented a breech, the second a shoulder. Delivery in the latter was effected by turning, the mother at the time being in a state of anæsthesia. Both children were born alive; no hemorrhage; discharged well on the twelfth day.

Case XIX.—E. Mulrooney, aged 36; second pregnancy; had been thirty hours under the care of a midwife. The arm and funis were both protruding through the os externum on

admission; the funis had ceased to pulsate, and the patient herself was in a very exhausted state. She was put under the influence of chloroform, and delivered by turning, with great ease; child still-born; no hemorrhage; recovery excellent; she went home well on the eighth day.

Case XX.—Mary Lynam, aged 35; eighth pregnancy; shoulder presentation. As soon as the os was fully dilated she was put under the influence of chloroform, and delivered by turning; child born alive; no hemorrhage; discharged well on the eighth day.

Case XXI.—Anne Stephenson, a soldier's wife, aged 25; first pregnancy. States that her labour commenced on the previous day, while travelling from Limerick to Dublin by railway. It was found to be an arm presentation; membranes had ruptured, and the hand was in the vagina. Chloroform was then administered, but she was very slowly affected by it. While inhaling, the pulse became very weak, and she gave no signs of consciousness; the chloroform was therefore discontinued as soon as turning was effected, which was easily accomplished: but great difficulty was experienced in extracting the head, which ultimately had to be lessened by the perforator.

Immediately on the birth of the child the respiration of the patient ceased, and the pulse became imperceptible, but whether from exhaustion or the influence of chloroform we could not say. The application of cold water to the face, and patting her on the cheek, soon revived her, and she went on favourably for some days; but diarrhœa, with extensive inflammation of the mucous membrane of the ileum, set in, and she died on the fourteenth day after delivery.

Case XXII. Margaret Sidebotham, aged 30; second pregnancy; elbow presentation; delivered by turning, while under chloroform; child alive; no hemorrhage; recovery good. Discharged on the eighth day.

Case XXIII.—Catherine Whelan, aged 24; first pregnancy; elbow presentation; delivered by turning. This woman could

not be got under the influence of chloroform; it neither produced insensibility, nor did it diminish the severity of her sufferings from the labour pains or during the operation. The child was born alive. She had no hemorrhage, and was discharged well on the ninth day.

To the foregoing I may add the following case, which occurred in private practice :—

Case XXIV.—In April, 1848, I was sent for some miles from town to see Mrs. M. I found the arm protruding through the os externum, and learned that she had been in this state for some hours before my arrival. She was immediately put under the influence of chloroform, and delivered by turning. She was in a perfect state of anæsthesia at the commencement of the operation, but, not having a person present who knew how to administer the chloroform properly, consciousness returned just as the child was being born. She had no hemorrhage, and her recovery was good.

Such is an outline of ten cases of turning, upon which I scarcely feel it necessary to make any observations, so well do they themselves testify to the good effects of chloroform in all such cases. Three of the children were still-born, but the chloroform is in no way chargeable with their death, as in one case, that of partial placenta prævia, the child evidently perished from the loss of blood sustained previous to delivery.

In Mulrooney's case, No. xix., the funis came down with the hand, and had ceased to pulsate before she came into hospital. Had we been ignorant of the use of chloroform, it is probable that delivery would have been effected in this case by eviscerating the chest, a most disagreeable operation, exceedingly distressing to the patient, and disgusting to the attendants. In the third case, that of Stephenson, No. xxi. it was necessary to lessen the head, and of course chloroform was not the cause of death. In this case a question may arise respecting the state of syncope which came on immediately after delivery; was it induced by the chloroform, or the result of exhaustion after the

operation, in a frame naturally delicate, and much weakened by previous fatigue and anxiety of mind? This is a point we cannot determine, but the impression made at the time was, that the chloroform had an influence on it, at least to some extent; and that it had no part in ultimately causing death, the *post mortem* appearances fully proved. No case that I have ever witnessed impressed me so deeply with the advantages of chloroform, as that of Reddy, No. xvi., one of the twin cases. When I first attempted to turn I completely failed, owing to the strength and frequency of the pains, but the moment the state of anæsthesia was induced, all resistance ceased, and the operation was accomplished with perfect ease.

Such is our experience of chloroform in cases of turning; and so completely is the Master of the hospital impressed with the value of it, that he administers it before turning as regularly as he should employ the perforator before extracting with the crotchet.

We now come to instrumental deliveries, comprising crotchet and forceps cases; and here I must apologize for detailing so many cases, all so much alike, but nothing short of this would do justice to the subject.

CROTCHET CASES.

Case XXV.—Bridget Clinton, aged 38; first pregnancy; labour tedious; delay in the first stage from rigidity of the os uteri, and in the second from want of space. The ordinary remedies failing, and the fœtal heart having ceased to pulsate, she was delivered by the crotchet while in a state of anæsthesia, after having been sixty hours in labour. Her recovery was good, and she was discharged well on the eighth day.

Case XXVI.—Rose Conlan, aged 36; first pregnancy. First stage of labour remarkably slow; os not dilated for first forty-eight hours. The second stage ran on for twenty-four hours longer; delay arose from inertia and disproportion, the

pains being weak, while, at the same time, the head was so impacted that the forceps could not be introduced. She was, therefore, delivered by the crotchet while in a state of anæsthesia, after having been seventy-two hours in labour. Her recovery was good, and she left the hospital well on the eighth day after delivery.

Case XXVII.—Catherine Lalaway, aged 34; third pregnancy. States that both her former children were still-born. There is some deformity of the pelvis, apparently the result of disease. After being seventy-two hours in labour, the head all the time remaining above the brim of the pelvis, she was delivered by the crotchet. Great difficulty was experienced in getting down the head, the patient all the time complaining of the pain induced by the extractive force used. At this stage of the operation she was put under the influence of chloroform for the first time, and with the happiest effect, as it not only relieved the sufferings of the patient, but relaxed the soft parts, and facilitated the delivery to an extent that could not have been anticipated. She had no hemorrhage; her recovery was good, and she went home well on the eighth day. I should remark that her labour was not continuous or severe, nor was it attended with any constitutional disturbance.

Case XXVIII.—Rose Ward, aged 37; tenth pregnancy. The funis came down with the head, and had ceased to pulsate; she was, therefore, delivered by the crotchet while under the influence of chloroform, after being twenty hours in labour. No hemorrhage; discharged well on tenth day.

Case XXIX.—B. Brown, aged 19; first pregnancy. First stage of labour, which had lasted fifty-two hours; delay from rigidity of the os, apparently brought on by too early rupture of the membranes. When in the second stage, the pains being weak, two doses of ergot were administered, but without effect. She was then put under the influence of chloroform, and delivery was attempted by the forceps, but it could not be passed

up. She was, therefore, delivered by the crotchet while in the state of anæsthesia. No hemorrhage; discharged well on ninth day. She was altogether sixty hours in labour.

Case XXX.—Alicia Higgins, aged 30 ; first pregnancy; forty hours in labour; delay in second stage from want of space. She was put under chloroform, which had the effect of weakening the pains; she then got three doses of ergot, but with little effect ; there was very little increase of pain, nor did the child make any advance. The forceps were now tried, but the blades could not be passed up. At the end of twelve hours, the child being still alive, the forceps were again tried, but in vain; and as the woman appeared exhausted, while at the same time the fœtal pulsations were scarcely audible, delivery was effected by the crotchet, the state of anæsthesia having been again induced. Her recovery was slow, and she did not leave the hospital until the sixteenth day after delivery.

Case XXXI.—W. Freymouth, aged 34; first pregnancy. The pains weak; labour very slow. Stimulating enemata and ergot of rye were given, but without effect. The fœtal heart having ceased to pulsate, she was delivered by the crotchet, while under the influence of chloroform. Her recovery was very slow, and she did not leave the hospital until the twenty-second day after delivery.

Case XXXII.—Maria Byrne, aged 28 ; first pregnancy; tedious labour ; delay in second stage from inertia. She was put under the influence of chloroform, which neither increased nor diminished the uterine action. Ergot was then given, when the pains increased considerably, both in frequency and force, but without any advance in the labour. The fœtal heart soon ceased to beat, and she was then delivered by the crotchet. She had a good recovery, and went home well on the ninth day.

Case XXXIII.—Sarah Timmins, aged 28; fourth pregnancy. Hemorrhage came on in the second stage of labour, when delivery was attempted by the forceps (the patient being under

the influence of chloroform), but failed, as the head was tightly impacted; the state of anæsthesia being still kept up, delivery was effected by the crotchet; no hemorrhage followed; convalescence tedious: discharged on the twenty-fifth day.

Case XXXIV.—Jane Leeson, aged 22; first pregnancy. This woman was in a state of great debility from want of proper sustenance; labour tedious; when thirty hours in labour, fœtal heart not being audible, chloroform was administered, and she was delivered with the crotchet. Peritonitis set in on the second day, and she died on the sixth.

Case XXXV.—Anne White, aged 30; second pregnancy; was brought from the country after having been thirty-two hours in labour. The bladder was so distended as to reach above the umbilicus, and a slough had already formed at the neck of it. She was put under the influence of chloroform, and delivered by the crotchet; no hemorrhage. She is still in hospital for vesico-vaginal fistula, the result of the sloughing.

Case XXXVI.—Mary Kane, aged 18; first pregnancy. A small, deformed woman, with angular curvature of the lumbar vertebræ; sacrum very straight, and the pelvis much deformed. After being twenty-three hours in labour, chloroform was given, and she was delivered by the crotchet with considerable difficulty. No hemorrhage followed, but peritonitis supervened. How the case terminated we cannot say, as she was forcibly removed from hospital by her friends on the seventh day.

On these cases in which delivery was effected by the crotchet, while the women were in a state of anæsthesia, we have scarcely a remark to make. The necessity for using it is not so great as in forceps cases, neither, perhaps, are the advantages so obvious, as the operation can generally be performed without much pain to the patient, and, in careful hands, with a very small amount of danger; at the same time, when we take into account the mental anxiety inseparable from such an occasion, and when we reflect how injurious any shock, mental or bodily, may then prove, I feel assured that we will seldom err

in using chloroform, and that in the great majority of such cases it will be found a valuable adjunct in rendering the patient more manageable and the operation more easily performed, independent of any advantage it may possess with reference to ultimate recovery. In two of the crotchet cases, the patients were attacked with puerperal fever, one of whom died in hospital, and the other was forcibly removed by her friends, as already stated. Its effect in the case of Lalaway, No. xxvii. who had deformity of the pelvis, was very striking. It was not given until great difficulty was experienced in bringing down the head with the crotchet, the patient at the same time complaining greatly of the pain produced by the traction. At this stage of the operation she was thrown into a state of anæsthesia, after which the head was brought down with about one-half the force that had been previously used, and without any pain to the mother. The rapid recovery of the patient proved that no undue force had been used, and that the soft parts had not been injured. In none of these cases had we hemorrhage to contend with, nor did any untoward symptom arise, either at the time of the operation or subsequently, that could be ascribed to the chloroform. There is one other point that I would here wish to direct attention to, namely, the giving of ergot with chloroform. In some of the cases this practice was adopted, and in one or two with marked effect, as it produced a decided increase in the pains, though not sufficient to complete the labour. The same practice was adopted in other cases, not now under consideration, with the best results; and in no case did it seem to do harm. Combining ergot of rye with chloroform may, therefore, be considered both safe and judicious where circumstances call for it(*a*).

(*a*) Since this paper was read before the Obstetric Society, Professor Beatty confirmed the value of the practice by reading some cases of a similar nature to the Society.

FORCEPS CASES.

Case XXXVII.—Bridget Kelly, aged 36; fifth pregnancy; states that she has always had tedious and difficult labours. The pains were very violent, but with little advance in the labour; she continued much in the same state for some hours, when chloroform was administered; the pains then became less severe, but by no means more efficient; and the head being now in the pelvis, she was delivered by the forceps, with some little difficulty. Child born alive; no hemorrhage; recovery good.

Case XXXVIII.—Eliza Hughes, a weak, delicate-looking woman; first pregnancy. The pains were weak, and the labour slow, with very little prospect of any improvement. At the end of thirty hours she was delivered by the forceps, while under the partial influence of chloroform. She offered great resistance to the introduction of the instrument, and was delivered with considerable difficulty, owing to her violent opposition, consequent upon her state of semi-insensibility. The child, however, was born alive; she had no hemorrhage, and went home well on the tenth day.

Case XXXIX.—Catherine Ryan, aged 34; second pregnancy. Labour tedious from inertia, for which she got stimulating enemata and ergot, but with little advantage. At the end of fifty hours she was put under the influence of chloroform, and was delivered by the forceps. The child was born alive, but appeared weak; no hemorrhage: her recovery was slow, and she did not leave the hospital until the twenty-fifth day.

Case XL.—Susan Daly, aged 28; fourth pregnancy; pains very weak; intervals long; treatment same as in the last case, and with the same effect. After being in labour twenty-seven hours, she was delivered by the forceps, while in a state of anæsthesia. Child born alive; no hemorrhage; recovery good; discharged well on eighth day.

Case XLI.—Hannah Singleton, aged 21; first pregnancy; thirty-two hours in labour. She was delivered by the forceps

while under the influence of chloroform, which had a very happy effect; child alive; no hemorrhage; went home well on the eighth day.

Case XLII.—Mary Sutton, aged 24; labour tedious from inertia. The ordinary remedies failing, she was delivered by the forceps while under the influence of chloroform, after having been forty hours ill; child alive; no hemorrhage; went home well on the eighth day.

Case XLIII.—Margaret M'Mahon, aged 23; first pregnancy. She was also delivered by the forceps while under the influence of chloroform, after forty hours of labour. On the fifth day she was attacked with puerperal fever, which was then prevalent; and on the thirteenth day her mother forcibly removed her from hospital, although very ill at the time. She was reported to have died in two days after her removal.

Case XLIV.—Bridget Hicky, aged 26; first pregnancy. She was a very troublesome, noisy patient; and as the labour was making very little progress, she was, at the end of twenty hours chloroformed, and delivered by the forceps. Child born alive; recovery good; she was discharged well on eighth day.

Case XLV.—Ellen Hughes, aged 30; first pregnancy; twin case; labour tedious, from inertia, the result of over-distension of the uterus. She was put under the influence of chloroform, and got three doses of ergot, but without any effect. After being twenty hours ill, she was delivered of both children by the forceps, while in a state of anæsthesia. An interval of an hour was allowed to elapse between the birth of the first and second child, during which she became conscious, but without a return of uterine action sufficient to expel the second child. She had a smart attack of hemorrhage after the placenta came away; her recovery, however, was good, and she went home well on the ninth day.

Case XLVI.—Bridget Nowlan, aged 30; first pregnancy. A twin case; the first, a footling, of which she was delivered while in a state of anæsthesia. The child was large, for a twin,

and great difficulty was experienced in getting away the head; it was born alive, however. The second a head presentation; the pains were so weak that ergot was administered, but with little effect; she was then delivered by the forceps, chloroform having been again administered. The child was still-born; no hemorrhage, but recovery slow, as there was some sloughing of the vagina. She did not leave the hospital until the twenty-ninth day.

Case XLVII.—Anne White, aged 23; first pregnancy; forty hours in labour; delay from inertia, for which she got ergot, but with little advantage. She was delivered by the forceps while under the effects of chloroform; child alive; no hemorrhage; discharged well on the eighth day.

Case XLVIII.—Bridget Lanigan, aged 26; first pregnancy; thirty-four hours in labour. The history and treatment same as in the last case; she also went home well on the eighth day.

Case XLIX.—Jane Short, aged 23; first pregnancy; thirty-eight hours in labour; delivered by the forceps while under the influence of chloroform; child alive; no hemorrhage; convalescence tedious, owing to sloughing of the vagina; discharged on the twenty-fourth day.

Case L.—Sophia Graham, aged 34; sixth pregnancy; tedious labour, from inertia, for which she got ergot, but without effect; delivered by the forceps while under the influence of chloroform; child alive; no hemorrhage; discharged well on the eighth day.

Case LI.—Mary Doyle, aged 28; second pregnancy; funis presented with the head; delivered by the forceps while under the influence of chloroform; child alive; no hemorrhage; recovery good.

Case LII.—Mary Fox, aged 34; first pregnancy; tedious labour; ergot administered with little advantage; delivered by the forceps; chloroform employed; child alive; no hemorrhage; recovery good.

Case LIII.—Margaret Ward, aged 30; first pregnancy; thirty-six hours in labour; history same as last case; forceps used and chloroform employed; discharged well on the eighth day.

I have thus given a rapid outline of all the forceps cases in which chloroform was administered, and not only were the operations facilitated, but the sufferings of the patients greatly diminished, by its use; while the recoveries on the whole were above the average in such cases. In the two first-mentioned cases, either from the chloroform not being good (its purity being a most important point to attend to), or from our want of experience in the mode of administering it at the time, the patients were not got into a state of perfect anæsthesia before the operation; we therefore experienced considerable difficulty from their restless opposition while in a state of semi-insensibility. In one of the twin cases there was an attack of hemorrhage after the expulsion of the placenta; but this I do not think could be ascribed to the chloroform. In the other twin case there was great difficulty in bringing down the head of the first child, a footling, and there was a considerable interval between the birth of that and the second. Was the chloroform the cause of this delay? Doubtless in some cases the pains are diminished in frequency and force, and may even be completely put a stop to during the state of anæsthesia, but they generally return with increased vigour as soon as the state of insensibility passes away. In the present case the chloroform was discontinued from the birth of the first child until the forceps were about being applied to extract the second.

We have only one death to record, that of M'Mahon, Case xliii., who died from puerperal fever, on the fifteenth day after delivery. Her removal from hospital contrary to the wishes, nay the entreaties of the Master, doubtless hurried on the fatal event. This unfortunate female was the victim of seduction; I need scarcely say how susceptible of disease such females

are, and how almost invariably fatal this disease proves to patients under such circumstances.

Of the children,—where ergot had been given,—one, a twin, was still-born. Two of those born alive died in hospital, one on the fifth day, the child of a woman who had also taken ergot and was fifty hours in labour. The second was the child of a patient who left the hospital in puerperal fever; it died on the eighth day. A review of the cases given will, I think, prove, even to the most sceptical, that chloroform is not only admissible but highly beneficial in forceps cases.

CONVULSION CASES.

I now come to the last variety of labour in which we used chloroform. I need scarcely say it was not given for the purpose of either preventing or putting a stop to the fits, but as the patients were generally conscious in the intervals, and showed no symptom apparently prohibiting its use, we thought it right to give it a trial, carefully watching its effects in such cases.

Case LIV.—Jane Baily, aged 33; first pregnancy; at the termination of the first stage of labour she was seized with a fit of convulsions for which she was bled, &c. Sensibility soon returned, but there was very little advance in the labour. Five hours after the fit she got two doses of ergot, but with little effect; in seven hours from the time she took the ergot another fit came on from which she soon recovered under the ordinary treatment. As the pains had now almost entirely ceased, and as it was doubtful whether the child was alive or not, she was put under the influence of chloroform, and delivered by the forceps of a female child, still-born. The fits did not return; she had no hemorrhage; her recovery was good, and she went home well on the tenth day.

Case LV.—Eliza Brady, aged 19; at 2 o'clock, p. m., she was seized with a fit of convulsions, which was followed by another in ten minutes. She was bled to twenty ounces; and had a

fetid enema with oil of turpentine administered. Consciousness soon returned, and the labour went on more favourably; at 3 o'clock the os almost fully dilated, but the head very high up; pulse 144; fœtal heart only 108. Chloroform was now administered, and she was kept in a state of anæsthesia for fifty minutes, during which the pulse came down to 84; fœtal heart 120; pains very weak, and inefficient. The chloroform was now discontinued, and consciousness soon returned. In twenty minutes after discontinuing the chloroform, she had a very severe fit, followed by stertor and great increase in the quickness of pulse. 5 o'clock, another very severe fit, which lasted four minutes. At twenty minutes after 5 o'clock, fœtal heart being still audible, chloroform was again given, and delivery attempted by the forceps, but without success. Twenty minutes to 6 had vomiting, grinding of the teeth, and spasmodic rigidity of the fingers. As another fit was apprehended, she was delivered by the crotchet; the placenta followed in a quarter of an hour, without hemorrhage. At half-past 6, and again in four hours, convulsions returned. On the following morning, the report was, that she had four fits during the night; pulse 120; very weak; still insensible. Ordered calomel and ipecacuanha, with light nourishment. She gradually sank, and died on the fourth day. No *post mortem* was allowed.

Case LVI.—Eliza Stewart, aged 25, a delicate-looking woman; first pregnancy; she was fretful, and seemed in great distress during the pains. When about thirty-six hours in labour, chloroform was administered, and she was kept in a state of anæsthesia for nearly an hour, during which the pains diminished in frequency and force; it was, therefore, discontinued, after which she slept for a good while, and awoke refreshed. The pains now returned with increased force, and the child was born in three hours from the time she awoke. Some minutes after the birth of the child, she had two or three short convulsive fits, for which some blood was taken from the arm;

the fits did not return, and she slept for several hours, but seemed very low and weak when she awoke. She gradually sank, and died in twenty-four hours after delivery. There was no lesion found in the brain or any other part of the body, and the impression at the time was, that she had died from exhaustion, consequent on the fits, combined with a tedious and distressing labour in a delicate woman.

Such is a short report of the only convulsion cases in which we used chloroform. As I before remarked, our object in giving it was not to prevent or put a stop to the fits, but simply for the purpose of mitigating the sufferings of the patients, or advancing their labours. In the first case it was given with the view of saving the patient the fear and pain incidental to all forceps operations, and in this it succeeded admirably. The second case is one of considerable practical interest, but I shall confine myself to the subject in question, namely, the giving of chloroform. That it did not induce the convulsions is evident, nor did we ever meet with a case where such a result could be attributed to it; although many theorists have set it down as a consequence likely to follow. It did not put a stop to the fits, but it certainly served, in the first instance, to control them, at least for a time. I do not say that it lessened them either in number or intensity, nor can it be said, on the other hand, that it favoured their continuance, or tended in any way to the fatal result. In the third and last case mentioned chloroform was given with the view of relieving the great distress complained of, and of relaxing the soft parts. These two objects were in a great measure accomplished during its employment, for although the pains greatly diminished while the patient remained in a state of anæsthesia, and entirely ceased during the interval of sleep, yet they were all the more vigorous afterwards, and literally accomplished more during the last three hours than had been effected in the twelve preceding ones. The whole history

of the case tends to the probability that the chloroform had nothing to do with producing the fits, nor was it, I feel convinced, in any way the cause of death.

These cases, I think, do not afford any evidence that chloroform is calculated to bring on convulsions, nor that it will increase the number or add to the severity of the fits when they have already set in. Our experience is as yet too limited to enable us to decide upon this point; but, with our present amount of knowledge, we would neither recommend it as a preventive or a cure for puerperal convulsions. If there was no organic disease present, nor any determination to the head in the intervals, we would not fear to administer it where circumstances seemed to indicate its use, or when called upon to perform the operation of turning, or delivery by instruments in a case complicated with convulsions.

I could greatly enlarge this communication, as I have before me notes of several other cases not mentioned; but as they were not taken very accurately, I think it better not to record them here.

In one case the pulse was intermitting, so as to induce us to give up the use of the chloroform. In another the muscular exertions became so violent that it was found necessary to restrain the patient, although calm and passive before. In two instances mentioned to me by my friend Dr. Johnson, my successor in the hospital, and to whom I am much indebted for the valuable assistance he so kindly afforded me in procuring some of the materials for this paper(*a*), the patients could not be brought into a state of anæsthesia by any amount of chloroform that it was thought prudent to administer, although they were really anxious for it. In several instances we could not prevail upon the patients to continue the use of it beyond the stage of excitement. Some were afraid we were about to try a great

(*a*) I am also under deep obligations to Dr. Ormerod, who was then in attendance at the hospital, for much valuable assistance in collecting the materials for this report.

experiment on them, or perform some terrible operation. Others imagined that it was an intoxicating drug, and, having taken the pledge, could not be prevailed upon to use it. One poor woman threatened to bring an action against the assistant on duty, for attempting, as she said, to take away her character by making her drunk. Another said to me: "Now, Doctor, you think it is one of your old drunkards you have to deal with, but you may be easy, I'll take no more of your stuff." Another, who required a very large quantity to affect her, became very loquacious, and spoke of her domestic broils and money matters. But in no case did we hear an immodest remark, or one calculated to offend the most delicate ear; nor did we ever observe the slightest approach to sexual excitement. We are, therefore, inclined to receive with caution the disgusting details and indecent stories told of patients while under the influence of chloroform.

With but one exception, we had no case of retained placenta after chloroform, nor had we reason to think that it predisposed to hemorrhage; on the contrary, we were impressed with the idea that the number of hemorrhagic cases where chloroform had been given was rather below than above the average in ordinary practice.

The contractions of the uterus after delivery were not impaired, nor did the chloroform in any of the cases appear to give rise to hemorrhage.

From what I have seen of chloroform I do not think that its use should be so restricted as Dr. Montgomery, in his valuable paper lately published in this Journal, would have us believe; nor have I witnessed the fearful results so graphically described by him as likely to follow from its use. Whilst I admit that some of the advocates for chloroform have been too lavish of their praise; on the other hand, I think that those opposed to it have been too unsparing in their censure. A middle course will be found the safest.

I consider it an agent powerful for good in many cases, yet

in rash and inexperienced hands it may, and I fear often does, prove equally powerful for evil. That it may be and sometimes is given for the purpose of amusing patients, and making them believe that they are saved from a vast amount of pain, when in reality they have scarcely inhaled a single breath of it, I doubt not. If we give it fairly and honestly, we must be prepared either to spend a much longer portion of time with our patients than we do at present, or intrust them, while in a state of anæsthesia, to the care of others during our absence. How any one in extensive practice can give up the time necessary for this plan of treatment I am at a loss to know, and yet some of our first and best accoucheurs boast that they use it in every case.

This report, I conceive, will bear us out in drawing the following conclusions:—

First. That chloroform is a most valuable agent in all turning, forceps, and crotchet cases.

Secondly. In some cases of natural or difficult labour it is useful in relieving pain, and in relaxing the soft parts, and thereby advancing the labour.

Thirdly. If given in large quantities, or if persevered in too long, it puts a stop to all muscular action. This is contrary to the opinon of Dubois, who states that it never destroys the uterine contractions, or those of the abdominal muscles.

Fourthly. In such cases the pains generally return with increased force when the chloroform is discontinued.

Fifthly. It does not relax the perineum more than the other soft parts. Dubois states that it does.

Sixthly. When organic disease does not contra-indicate its use there is little danger to be appprehended from it in midwifery practice.

Seventhly. Chloroform may be administered to such a degree as not to take away reason and consciousness, and yet to secure the patient immunity from pain.

The mode of administering it in the hospital is by means

of a hollow cone formed out of a piece of spongeo-piline sufficiently large to cover the mouth and nostrils; to prevent it from collapsing, a few ribs of whale-bone are fastened on the outside, and over these there is a covering of fine leather. This method is both simple and efficient, as proved by our almost uniform success in producing the desired effect with a much smaller quantity of chloroform than is generally used(*a*). Professor Simpson says, that usually when the handkerchief is used about an ounce per hour is necessary; some require less and some more. In one case lately, a first pregnancy, he states that he expended nearly six ounces in two hours. In the

(*a*) At the conclusion of Dr. Denham's report, Dr. Fleming exhibited and described an apparatus which he had constructed for the purpose of administering chloroform, and which he had used most extensively for some months past. This consists of a small capsule of glass, with an overlapping edge. The capsule is circular, and about two inches and a half in diameter. Within it is placed a small slice of sponge, which, when the apparatus is about to be made use of, is saturated with chloroform; and this he styles the "chloroform sponge." Round the neck of the glass a large cup-like sponge, hollowed out, and so shaped as to cover the nose and mouth, is attached. Through the pores of this sponge the atmospheric air is admitted. Before use, both sponges are damped with water, and then the proper measure of chloroform is poured upon the small flat sponge contained within the capsule.

Dr. Fleming made a communication upon this subject to the Surgical Society upon the 28th April last.—(See his paper in the Proceedings of the Surgical Society.)

We have very frequently seen Dr. Fleming employ this apparatus, and have had his valuable assistance with several patients of our own; and we feel great pleasure in stating that his method of throwing patients into a state of anæsthesia with chloroform very far exceeds in ease, simplicity, and certainty, any other means which we have witnessed. We may mention here the necessity of allowing the patients to partake but very sparingly of food before the administration of chloroform, as, if a hearty meal has been recently taken, vomiting is almost sure to follow, a symptom at all times particularly distressing, and especially inconvenient during the performance of operations about the face. From the attention which Dr. Fleming has devoted to this subject, and his extensive experience of the use of anæsthetic agents, both in public and private, we anticipate with much interest a Report upon the subject, which he has promised us for our next Number.—Ed.

Dublin Lying-in Hospital we rarely use more than one ounce in that length of time, and very generally less.

In conclusion I may remark, that since the first part of this Report was sent to Press, I have read a pamphlet by Mr. Gream, upon "The Misapplication of Anæsthesia in Childbirth, exemplified by Facts," in which a number of fatal cases are given under the head of "deaths after delivery." An examination of the records of these cases, however, has convinced me that the deaths, in the great majority of instances, were not at all caused by the use of chloroform. He records a case of twins, where chloroform was administered before the second child was born, and the lady "survived the birth only for a period less than an hour;" but there are no other further details given, which certainly were required in recording the history of such a lamentable result. Another was a case of natural labour, in which the female "died at about the end of the second week from her delivery, never once having rallied from the effects of the chloroform." Two of the cases were those of ruptured uteri,—one a case of turning; and the other a forceps case, where there was laceration of the neck of the uterus, and sloughing of the vagina. A case where the patient died from sloughing of the "maternal passages," the result of long impaction, will be found among the fatal cases attributed to chloroform. Two were cases of convulsions; in one the fits came on six hours after delivery, and the patient survived for six days. In the other instance the fits came on twenty-five hours after delivery; the woman lived but thirty-eight hours after the first attack.

Six of the cases, two of which are taken from Dr. Simpson's report, died of puerperal fever coming on about the average period after delivery. In one of these cases it was caused by the rupture of a tumour that was attached to the peritoneal coat of the uterus, and in another it came on after a fit of convulsions, the result of a fright received some days after delivery. Two more of these deaths from puerperal fever are taken from the report of Baron Dubois. In these the for-

ceps had been employed, and ether was the substance used to cause anæsthesia.

Two cases of puerperal mania, one of which died on the ninth day after delivery, and the other in a lunatic asylum, at the end of fifteen weeks, are set down under the head of deaths from chloroform. It is unnecessary to recite these cases at greater length. I feel convinced that every unprejudiced practitioner, conversant with midwifery practice, will at once repudiate the idea that chloroform was the cause of death in these cases of sloughing vagina, ruptured uterus, convulsions, puerperal peritonitis, and mania, &c., of which I have given a brief summary. The length to which this report has already extended precludes my entering at greater length into an examination of the cases and opinions set forth by the author just quoted.

We have yet much to learn about anæsthetic agents. Should my example induce others to follow up the subject I shall feel satisfied. The object of all interested in this question ought to be, and I am sure is, to benefit mankind. However much, therefore, we may differ upon this or any other subject, I trust we shall ever be found debating, not as the briar with the thistle, which can wound the deepest, but as the olive with the vine, which can bear the best fruit, and which most mitigate the sufferings of fallen humanity in the hour of nature's trial.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Parturition and the Principles and Practice of Obstetrics. By W. Tyler Smith, M. D., Lecturer on Obstetrics in the Hunterian School of Medicine. London, J. Churchill. 8vo., pp. 395. 1849.

A new Method of treating Sterility by the Removal of Obstructions of the Fallopian Tubes. By W. Tyler Smith, M. D. Tract, pp. 16. London, printed by Savill and Edwards.

Up to the present time, it must be admitted, that the physiology of the generative system has been in a most unsatisfactory state. No doubt we have had explanations of the different functions of menstruation, conception, gestation, and parturition; but these have been often erroneous, often imperfect, and always isolated. We have had no philosophical view of these functions as a whole, no illustration of their idea, nor expression of their unity.

The work before us, by Dr. Tyler Smith, is an attempt, and, we are bound to say, a singularly successful one, to establish and develope the law which governs all these functions, by applying to their explanation the principle of reflex action, discovered by Dr. M. Hall. It would appear that most of the ovario-uterine phenomena are reflex acts; these organs communicate with the spinal marrow by nervous arcs, which transmit impressions from the incident surfaces to the spinal marrow, and reflect motor influences from that centre. Some of these excito-motor arcs communicate with a limited portion of the spinal marrow, others with a great extent; and their influence occasionally involves the cerebrum (at least pathologically), as well as the tubercula quadrigemina, and medulla oblongata.

After this brief introduction, let us turn to the author's ap-

plication of these discoveries to midwifery: "Uterine motor action," he observes, "and the action of the accessory muscles concerned in parturition, with the knowledge of the nature and laws of the forces upon which these actions depend, are the dynamics of parturition."

The different forms of uterine motor actions are the voluntary, the emotional, the reflex, and the peristaltic. The will can, of course, exert no influence upon the uterus under ordinary circumstances; during parturition, certainly, voluntary efforts are brought to bear indirectly upon the womb, and to increase its expulsive action; we also know that emotion, acting through the medium of the spinal marrow, has a powerful influence upon the uterus: but upon these we shall not dwell, as we are anxious to arrive at Dr. Tyler Smith's illustrations of the reflex actions. He observes:

"Reflex actions of the uterus are very numerous, and it is upon them and the numerous extra-uterine reflex actions excited during the process, that the natural performance of parturition essentially depends. Contraction of the uterus from irritation of the mammæ, as in the act of suckling the child; contraction of the organ from the cold water douche applied to the vulva or abdominal surface; contraction excited by irritating the rectum, as by stimulating enemata; or of the stomach, by drinking a gulp of cold water; of the ovaria, by the presence of the menstrual nidus; of the vagina, by manual irritation, as in 'taking a pain;' of the os uteri, by irritation, as in the introduction of the hand into the uterus;—are all to be considered as so many instances of reflex spinal action. Thus, in parturition, the uterus may be excited in a reflex form by irritation of the mammary incident excitor nerves, the pubic and abdominal branches of the intercostals, the rectal, the gastric division of the pneumogastric, the ovarian nerves, and also by the nerves of the vagina, and of the os and cervix uteri."—p. 34.

But, besides the uterine reflex actions, we have another series in the expiratory actions which come on during the second stage of labour, and which co-operate with the former, and augment their power. These, after labour has commenced, depend for their stimulus chiefly upon the ovum; the latter are excited by the pressure of the child in its passage through the vagina, in consequence of the more extended excito-motor communication of the latter organ.

The *peristaltic* or *immediate* action of the uterus is the radical basis upon which its other motor powers rest. As we all know, muscles may contract when subjected to irritation, although the communication between them and the cerebral and spinal centres has been cut off, and this motion is of a peristaltic kind:

"The uterus is eminently endowed with this form of contraction. When one point of the uterus is stimulated through the abdominal parietes, the contraction excited extends with the utmost rapidity to the whole organ; the same occurs when the fingers are made to irritate any point of the internal surface of the uterus. Hervey beautifully described this peristaltic form of action in the uterus of the doe; William Hunter saw it in the cat and the rabbit; Professor Müller, in the uterus of the rat and the oviduct of the turtle. I have seen the same thing in the uterus of the guinea pig and other animals. This form of motor action is the basis of the other uterine actions. In natural labour in the human female, it is, so to say, disguised by the reflex actions; but, under certain circumstances, it is able to effect, unaided, the expulsion of the child."—p. 39.

The direction in which this peristaltic action acts has been a matter of dispute. Müller, Michaelis, Wigand, &c., believe that it commences at the cervix and extends to the fundus, thence returning to the cervix. Dr. Murphy reverses this order, and believes it to commence at the fundus. Dr. Tyler Smith agrees with the former opinion; but our space will not permit us to enter into this question, nor into that of the cause of dilatation of the cervix.

The Fallopian tubes possess two sets of muscular fibres, circular and longitudinal, and their action is of a peristaltic character. Under stimulation they become so turgid that Dr. Tyler Smith thinks they almost deserve to rank with erectile organs. They are also the seat of special excito-motor actions under certain circumstances; they have been observed to be closely applied to the ovaria in lower animals during the period of œstration; to the ovaria of women who have died during the period of menstruation; and our author thinks it probable that the same thing occurs during coition, as it does at the time the ovule passes from the ovary into the uterus. This must evidently be a reflex action.

As to the vagina:—the constrictor vaginæ we know possesses some voluntary power, and even the canal itself, to a slight degree; but its chief action is reflex, as we see when the canal is distended by a polypus, on the introduction of the speculum which it often grasps firmly, and especially in labour, after it has been fully dilated by the child.

Thus we have, as it were, a single genital canal from the ovaries, which is formed by the Fallopian tubes, uterus, and vagina, largely endowed with excito-motor nerves, and exhibiting partly peristaltic and voluntary, but throughout, reflex action.

But then comes the question, what is the *primum mobile* of this reflex action?—what is it that gives the impetus to the

different functions performed by these actions?—and if there be unity in generative physiology, what is the one originating power which influences, and controls, and stimulates all these functions?

Dr. Tyler Smith's answer is, that this originating and moving power resides in the ovaries; that they cause menstruation, conception, and parturition. Let us examine this a little. First, we may just mention, what is well known, that the ovaria, Fallopian tubes, uterus, and vagina, are liberally supplied with nerves, and that these nerves form a demonstrable communication between those organs. Dr. Tyler Smith also fully agrees with Dr. Lee, that the nerves of the uterus enlarge during pregnancy.

The ovarian influence upon menstruation may now be regarded as established; but it is very remarkable that Dr. Power, in 1821, anticipated by his explanation that which the more recent researches of Girdwood, Lee, Baer, &c., have almost demonstrated. Dr. Tyler Smith coincides in the opinion that menstruation is analogous to the oviposition of birds; and the conclusion to which he arrives is thus expressed:

"Menstruation is, in fact, the unimpregnated oviposition, while conception is the impregnated oviposition of the human subject. The analogy between menstruation and the oviposition of those amphibia and fishes which are impregnated out of the body is very close; in them, as in the human subject, the ovarian excitement and the extrusion of the ova are periodic, and may occur without the intervention of the male." "Menstruation is an ovarian rather than a uterine function, and it may be considered as the first act of human parturition; it is the parturition of the *ovule* instead of the parturition of the *ovum;* and it represents, with the exception I have already dwelt upon, the whole of the parturition in birds and in many fishes and amphibia. The mechanism by which the ovule is conveyed from the ovarium to the uterus I have explained in former lectures, viz., the reflex and peristaltic action of the Fallopian tubes."

Dr. Tyler Smith regards the œstration of animals and menstruation as analogous states; and assuming, upon rather scanty evidence, we think, the presence of sexual desire at these periods, is disposed to date the time of conception from the cessation of a menstrual evacuation, and upon this view has constructed a calendar of menstrual and parturient periodicity, which we noticed in a former Number. For various reasons, we are not quite prepared to admit this, although further investigation may convince us. We are rather disposed to regard the monthly ovarian excitement, and the development of the

Graafian vesicle, as preparations either for menstruation or conception: if the seminal stimulus be applied, for the latter; if not, for the former. According to this view, conception more frequently occurs, and is more likely to occur, just before a menstrual period, which it will prevent, than afterwards.

With regard to utero-gestation, Dr. Smith has found in its various phenomena of sickness of stomach, cough, tenesmus, cramp, &c., beautiful illustrations of reflex actions; and, in his observations upon the peristaltic motions of the uterus, has been led to believe that what are called the movements of the fœtus towards the end of pregnancy are really not produced by the fœtus at all:

"If the abdominal movements in the latter months of pregnancy are very carefully observed, two tolerably distinct kinds of motion may be made out. The one is a movement traversing irregularly over the abdomen, and conveying the sense of hardness either in ridges or in eminences underneath the hand. These movements are often felt at several points of the uterus simultaneously, and are accompanied by pains. When the hardness is most apparent, the patient will say that the child kicks and hurts her. These movements will, in some cases, continue for hours together, particularly at night. When very violent they give the idea of a blow, or a succession of blows, if the hand be laid upon the abdomen. The other kind of movement is distinct from that I have been describing; it conveys to the hand a sudden shock or impulse, like that obtained by repercussion in ascites, only stronger. The abdomen gives, as it were, a sudden shudder; it is like the quick and temporary movement of a young infant touched in its sleep. The first and most frequent of these movements I believe to be purely uterine; the second, fœtal, and to be felt only in undoubted pregnancy."

Dr. Tyler Smith has entered into an elaborate and very ingenious inquiry into the cause of the first uterine contraction in parturition; and, although we cannot follow him into the details, we shall endeavour to lay his conclusions before our readers:

"At the time of parturition," he remarks, "there is the *tendency* of the uterus to contract on the application of stimuli to be considered; besides this tendency or aptitude there are the particular actions really excited by the stimulus of the fœtus and other incidental stimuli. In any successful inquiry into the cause of labour, it must be necessary, at the threshold, to ascertain the cause of this first tendency to uterine contraction, after the organ has lain so nearly dormant during the whole time of utero-gestation."

He then proceeds to trace in the lower animals the connexion between ovarian excitement and motor parturient ac-

tion. It is seen in the frog, and in oviparous fishes, in insects and in birds, and lastly, in some of the mammalia, in whom the period of ovulation or expulsion is also a time of sexual and ovarian excitement. Next he proceeds to show that "parturition is essentially a menstrual period," nay, that it is not always without sexual excitement; and we know that both these states depend upon ovarian stimulation.

"Ovarian excitement is essentially the cause of all the acts of ovi-expulsion of the female generative organs. This obstetric dogma I would especially insist upon. The great body of facts and observations I have marshalled before you in the present lecture demonstrates most unequivocally, to my mind, that in all animals which deposit ova for fecundation out of the body, the ovaria supply the stimulus to the motor actions necessary to their expulsion. Next, that in those which expel impregnated ova, after they have remained a short time in the generative receptacle, it is a return of the same kind of ovarian excitement which conveyed the ovule from the ovarium to the receptacle that ultimately causes its expulsion; and, lastly, that when the ovum is expelled as a mature embryo, it is still ovarian excitement, at the return of an ovarian period, which brings about its delivery from the uterus." "Where the ovarium is anatomically severed from the rest of the sexual apparatus, as in the mammalia and human female, the ovarium is connected with the rest of the parturient canal by a series of reflex arcs. By means of the special excitor nerves of the ovaria, that portion of the spinal centre which presides over the actions of the uterus is, at the end of utero-gestation, thrown into a state of excitability or polarity somewhat resembling the general spinal excitability of tetanus." "The uterine nervi-motor system being thrown into such a state of persistent excitability that the uterus firmly contracts equably upon its contents, the fœtus itself, hitherto defended by the liquor amnii, becomes an ordinary excitor, and the reflex actions of labour are gradually established. The equable contraction of the uterus preceding labour is, in effect, just as though the membranes had been punctured in the operation of inducing premature delivery, and the head of the fœtus brought to exert pressure upon the os and cervix uteri."—pp. 122–3.

Thus Dr. Smith lays it down as an axiom that "ovarian excitement is the law of parturition in all its forms of ovi-expulsion." Nor are we prepared to deny this, although we do not see that he has explained how this ovarian excitement is cumulative up to the tenth menstrual period only, or why it is then so powerful as to originate labour. Nor are we quite sure that the facts he has adduced in evidence are sufficiently numerous or decisive to demonstrate the correctness of his view. We shall not, however, stop at present to argue the question,

but proceed with the development of our author's views of natural labour. He divides labour into five stages, each having peculiar physiological characteristics:—1, the preliminary stage; 2, that of dilatation; 3, that of propulsion; 4, that of expulsion; and 5, the extrusion of the placenta, &c.

During the preliminary stage the uterus becomes firm, defined, and ovoid, quite distinguishable from the abdominal parietes; the abdomen falls, as it is said, and the more remarkable movements occur, which Dr. Smith thinks is a proof that they are uterine, not fœtal. During this stage "the only excitor nerves involved are the ovarian; as yet the uterine motor nerves are quiescent." In the second stage, however, we have called into action not only the ovarian nerves but the nerves of the os and cervix uteri, and these only. The uterus itself is in a state of alternate active contraction and rest, and the os uteri actively dilating, according to our author, in addition to the passive dilatation by the amniotic liquor, &c.:

"Until the termination of this stage none of the other spinal functions are disturbed, except those of the rectum and bladder. The uterus is contracting and dilating alone. The portion of the spinal centre involved is the lower medulla; the medulla oblongata, or the functions over which it presides, not being at all affected."

But when the membranes are ruptured, and the head passes through the os uteri, a new series of nervous influences are evoked, and new motor phenomena arise; the nerves now implicated are the excitors of the expiratory acts of parturition, and these vaginal excitor nerves are in relation both with the lower medulla and the medulla oblongata.

"By the lower medulla, and the excitor and motor nerves in relation with it, reflex actions of the uterus are produced by the excitation of these nerves; while all the reflex actions of the respiratory system depend upon the medulla oblongata. If the spinal marrow were divided in the medulla there could be no respiratory action in parturition."

By respiratory action the author means the fixing of the chest and the suspension of the breath, ending in a forcible expiration. The excitor nerves involved in this stage are the ovarian, uterine, and vaginal; and the motor are the uterine nerves and the motor nerves of the respiratory muscles.

"When the fœtal head is actually passing the ostium vaginæ a new set of actions make their appearance. The perinæum, after being distended to the utmost, is now retracted over the head by the action of the levatores ani; the sphincter ani and sphincter

vesicæ dilate suddenly; the vagina contracts upon the advancing mass, and the head glides rapidly into the world. The dilatation of the two sphincters, between which the vagina is placed, compensates admirably for the absence of a perfect sphincteric muscle at the outlet of the parturient canal. The effect of this double dilatation is, that at the precise moment when there is the most imminent danger of laceration, there is a sudden and considerable removal of tension from the parts endangered. The dilatation of the sphincters is partly dependent on the sensation and emotion of severe pain, and partly on the reflex dilatation peculiar to the sphincteric muscles." "The excitor nerves involved in the stage of expulsion are, the ovarian nerves, the uterine nerves, the vaginal nerves, and the nerves of the ostium vaginæ. The upper and lower divisions of the spinal centre are implicated as in the stage of propulsion. The motor nerves excited to action are, the uterine, vaginal, and respiratory nerves, and the nerves of the sphincter ani and sphincter vesicæ."—pp. 163–4.

The subsequent contraction of the uterus is insured by the irritation of the placenta, which, in its expulsion, calls into play the motor nerves of the uterus, vagina, and ostium; and, subsequently, the mammary irritation produces a reflex action of the uterus.

We have thus laid before our readers a brief account of this dynamic physiology of the uterus, omitting the phenomena with which all practitioners are acquainted, and confining ourselves to those developed by the reflex actions. We have of course been obliged to pass over many admirable and practical illustrations of this action, in order to insure something like a connected view of the four great phenomena of the generative functions.

The practical value of the views Dr. Smith has so ably laid before us will be shown by quoting the two great classes of motor derangements or deviations from normal labour. *Class* I. includes—1, abortion; 2, precipitate labour; 3, rigidity of the os uteri; 4, rupture of the os uteri; 5, laceration of the perinæum; 6, excessive after-pains; 7, encysted placenta; 8, inversion of the uterus; 9, hour-glass contraction; 10, metastatic pains; 11, puerperal convulsions. *Class* II.—1, uterine inertia; 2, tardy labour; 3, sinking; 4, uterine hemorrhage; 5, placenta prævia; 6, retained placenta; 7, labour with paralysis.

The first class of deviations includes those which are caused by excessive, and the second, those which arise from deficient motor action.

We trust that our readers will now understand the mode in which the author employs Dr. Marshall Hall's brilliant disco-

veries to explain the causes of ovario-uterine action, and the completion of the generative and parturient functions. We should have been glad to have entered more fully into his examination of some of the instances of deranged motor action, but we must content ourselves with specifying the chapters on abortion, rupture of the uterus, inversion, and puerperal convulsions, as being rich in information of practical value.

The work may be regarded by superficial readers as one of theory, and so it is; but we are not of those who would discard every contribution, however true, that is not solely practical. Truth must, in its nature, be practical, and a theory that is true will not be long before it embodies itself in a practical form. We believe that the dynamic physiology so ably put forward in this volume is true, though not the whole truth; and we feel sure that no one can carefully study it without becoming a more intelligent and practical obstetrician. For our own part, we regard this work as the ablest system of ovario-uterine physiology that has appeared since the time of William Hunter. It is rare, even in these times, to find such an accumulation of facts, such careful induction, and such satisfactory conclusions, with so much light thrown upon ordinary but obscure processes.

The volume is well written, clear, intelligible, and exhibits throughout great powers of observation and analysis. The publisher's name is a sufficient evidence that it is well brought out. In conclusion, we strongly recommend the thoughtful study of the volume to all careful, practitioners; we are sure that they will derive as much pleasure from it as ourselves, and rise from its perusal with gratitude to the author through whose exertions they have obtained a clearer insight into the wonderful arrangements by which the multitude of effects are shown to result from such unity and simplicity of casual actions.

Since the foregoing observations were written, Dr. Tyler Smith has forwarded to us a tract "Upon a New Method of treating Sterility," as a supplement to his larger work. The cases of sterility to which he alludes are those arising from obstructions of the Fallopian tubes owing to profuse or thickened secretion, and this he proposes to remedy by the passage of a fine whalebone probe into the tube. To do this, however, is no easy matter, and Dr. Smith has applied all his ingenuity to the construction of a suitable instrument, which consists of a hollow tube or catheter, resembling Professor Simpson's uterine sound, with the addition of a short lateral curve at the

point, turning to the right or left according as it is for the right or left Fallopian tube. This catheter is to be passed through the cervix to the top of the uterine cavity, and then the orifice of its curved extremity will, Dr. Smith says, correspond as nearly as possible with the orifice of the Fallopian tube. Having so far succeeded, a very fine whalebone probe is to be passed through the catheter into the Fallopian tube, the distance to be ascertained by marks upon the outer extremity of the probe. Dr. Smith states that there is no difficulty in passing the probe, although the introduction of the catheter is not always easy; and after several trials he has never seen any inconvenience result from the operation.

We have not tried this operation, and therefore can give no opinion from experience, but there are one or two remarks we may venture to make.

1. As we formerly observed, when speaking of the uterine sound, and other mechanical inventions of the same kind, we have not found the uterus so insensible as some have represented it, and we have known such explorations to be followed by pain, irritation, and inflammation.

2. Mechanical sterility, like mechanical dysmenorrhœa, we believe to be comparatively a very rare occurrence, and we have no means of diagnosing it.

3. To subject the uterus to this operation in cases of sterility, on the chance of the cause being mechanical, would be running an amount of risk which, we think, might prove seriously disproportionate to the intended good.

4. We should fear that the operation will not be quite so easy or certain as Dr. Smith supposes, if the obstruction be firm and the probe very fine; and, on the other hand, if a stronger probe be used, there may be danger of actual injury.

5. Dr. Tyler Smith states that as yet he has seen no unpleasant effects from this exploration, and we believe him as a man of truth; but so others say of the free use of the uterine sound, &c., and yet we have known great irritation excited by it. We should, therefore, prefer to have a more extended experience of it before pronouncing in favour of such an operation. The state of the womb, for some time after the operation, should be carefully watched, and the results noted; then we may be able to decide whether it be admissible, and in what cases.

A Practical Treatise on Inflammation of the Uterus and its Appendages, and on Ulceration and Induration of the Neck of the Uterus. By JAMES HENRY BENNET, M. D., &c. London, Churchill. 1849. Second Edition, pp. 527.

DR. BENNET is now too well known as a zealous and successful writer on uterine diseases, to need any recommendatory comment in introducing his work to the notice of our readers. The fact of a second edition having been called for is sufficient proof of the estimation in which he is held as an author, and confirms us in the favourable opinion we expressed of the former edition of his Treatise(*a*). A vast deal of important matter has been added, and the size of the volume is thereby so much augmented, that, although nominally a second edition, it is in reality a new work. We cannot better convey an idea of the character of this truly classical Treatise than by giving a short analysis of its contents.

After some preliminary matter, in which will be found an excellent account of the anatomy and physiology of the uterus, the Author proceeds to describe inflammation of the womb in the non-puerperal state, under the heads of *Acute Metritis*, *Chronic Metritis*, and *Internal Metritis*. The observations on each of these subjects are very good, and possess much originality, particularly those upon internal metritis,—an affection which seems to have been hitherto confounded with inflammatory disease of the cervical cavity, but from which it differs in many respects. Inflammation and abscess of the uterine appendages, both in the puerperal and non-puerperal states, next come under consideration. The latter form has not been described by any preceding author, and yet Dr. Bennet says he is enabled "to state most positively, from his own experience, that the disease is by no means uncommon, although generally unrecognised, and confounded with acute metritis or iliac abscess."—p. 56.

The more common lesions of inflammation, ulceration, and hypertrophy of the neck of the womb, occupy the six succeeding chapters ; and their pathology, symptoms, and diagnosis are elucidated in the most minute and satisfactory manner. He first gives a general description of inflammation, acute and chronic, in this region, and then devotes separate chapters to the consideration of the peculiarities which the disease presents, first, in *virgins ;* secondly, in *pregnant women ;* thirdly, in the

(*a*) Vol. i. of our present Series.

puerperal state ; and, fourthly, in *women who have ceased to menstruate.* Each of these chapters may be consulted with profit and deep interest by all engaged in the treatment of female diseases ; and though it would be impossible to expect that mere extracts could give any adequate notion of the amount of practical information contained in them, we cannot forbear making a few quotations. Of inflammation and ulceration during pregnancy, our author remarks:

"I have devoted great attention to the elucidation of inflammatory ulceration of the cervix during pregnancy, and have ascertained that it is of frequent occurrence, that it is the key-stone to the diseases of the pregnant state, and the most general cause of laborious pregnancy, obstinate sickness, moles, abortions, miscarriages, and hemorrhage."—p. 192.

This passage is quoted, as it exhibits Dr. Bennet's views respecting the wide extent of evil resulting from inflammatory action in the cervix uteri, in connexion with the gravid estate. Let it not be supposed, however, that we fully acquiesce in the above statement; on the contrary, we are of opinion that the doctrine it affirms should not be received without some limitations. When inflammatory induration is present at the time of labour, Dr. Bennet thinks it very much retards the dilatation of the os uteri, and that the patient may even be exposed to very great risk of rupture of the womb should she be near the full term; and he further expresses his conviction that many of the recorded cases of this frightful accident occurred under these circumstances. Time and patience, however, usually prove adequate for the removal of this cause of delay. The most prominent of all the symptoms resulting from inflammatory ulceration of the cervix, during the puerperal state, and after abortion, is *hemorrhage.* This ordinarily shows itself under the appearance of excessive lochial discharge, the blood thus excreted being pure or mixed with muco-purulent matter.

"I have no hesitation in saying, that when hemorrhage continues after parturition for weeks beyond the usual time, there will *nearly always* be found some inflammatory and ulcerative lesion of the cervix, and that an instrumental examination is indispensable. Once the real nature of the disease is ascertained, the hemorrhage may, generally speaking, be immediately stopped by the cauterization of the ulcerated surface, from which it seems in these cases principally to proceed."—p. 227.

In the tenth chapter we have some remarks on the inflammation and ulceration of the neck of the womb, which accompa-

nies uterine polypi and fibrous tumours. Dr. Montgomery's observations on this subject (recorded in the second volume of our Journal) are alluded to, and their accuracy confirmed, by Dr. Bennet. The subject of retroversion of the fundus, and of the neck of the unimpregnated uterus, has latterly engaged a good deal of the attention of accoucheurs, and been the source of much controversy amongst them. According to Dr. Bennet's experience, "displacements of the uterus and of its neck, *in whatever direction they occur*, when slight, and when they have taken place gradually, do not occasion any symptoms whatever, if there is no inflammation present."—p. 296. He takes considerable pains to prove that the symptoms ordinarily attributed to retroversion are, in reality, dependent on the concomitant inflammation, and that, when this is thoroughly cured, all the morbid symptoms disappear without any therapeutic means having been directed to the displacement. Now, if this be found correct (as we are much inclined to think it will), it is needless to say that it must effect a complete revolution in some of the prevailing modes of treating versions of the uterus.

Three chapters are allotted to inflammation of the vagina and vulva, syphilitic ulcerations of the uterine neck, and to the diagnosis of cancer of the womb. The last of these subjects he investigates at great length, his remarks extending over forty-three pages; and considering that he has here to contend with some of the first uterine pathologists of the present day, we must confess that he handles the question with much ability, and displays throughout great powers of observation and closeness of reasoning. The grand point he labours to establish is best conveyed in his own language:

"I firmly believe that the forms of disease which they (Clarke, Ashwell, &c.) have described as the first stage of uterine cancer are merely and solely modifications of inflammatory action in the neck and mouth of the uterus, totally distinct from cancerous growths, and having little, if any, tendency to malignant degeneration. I also believe that the cases brought forward to illustrate the physical diagnosis and the curability of cancer are simple instances of inflammation."—p. 349.

He submits to a most searching analysis the writings and cases of Sir C. M. Clarke, Ashwell, Montgomery, and Lisfranc, with a view to show that the condition of the cervix uteri described by these authors as cancer in its incipient or *curable stage*, is only an advanced stage of chronic inflammation and induration, having no disposition to "cancerous degenerescence." We decline offering any comment on the soundness of the opinions here put forward,—time alone must decide that;

but we cannot refrain from expressing our warm admiration of the clear, logical manner in which they are stated.

It yet remains for us to notice two most valuable chapters, the twelfth and fifteenth. The former is on the connexion between inflammation of the uterus, or its neck, and functional derangements and displacements of the uterus; and the latter comprises the treatment of the several inflammatory affections, the description and history of which form the special object of the Treatise. Each of these will be found to contain much sound and original information. From the latter we transcribe two passages, which, it is hoped, may have their due weight with the "heroic" obstetricians of the present day. Speaking of the use of injections of nitrate of silver into the uterine cavity, for the cure of internal metritis, he says:

"There is reason to believe that uterine injections are not safe, and I consequently never resort to them. Several deaths occurred in Paris, during my residence there, from metro-peritonitis, brought on by their use."—p. 485.

"The cavity of the uterus bears surgical interference, as we have seen, less than any other uterine region; its cauterization being nearly always attended with extreme pain, nausea, or even sickness, copious hemorrhage, and considerable febrile reaction."—p. 486.

In the form of an appendix he subjoins some very judicious and useful observations upon the physical examination of the uterus and its appendages. Besides the numerous cases scattered throughout the volume, there is annexed a synopsis of 300 cases, presenting uterine symptoms, treated at the Western General Dispensary; and under the headings of "Age," "Menstruation," "Social State," "Disease," and "Prominent Symptoms," we have before us the leading features of each individual case.

Having now concluded our sketch of the contents of this truly excellent Treatise, it only remains for us to express our deep admiration for the talents of its author, and our sense of obligation for the great benefit he has conferred on this department of practical medicine. We feel convinced that if the first edition of this work was worthy of a favourable reception by the profession, the second is, in every respect, infinitely more so.

Observations on the Pathology of Croup; with Remarks on its Treatment by Topical Medications. By Horace Green, A. M., M. D., &c. New York and London, Wiley. 1849. 8vo. pp. 115.

On Infantile Laryngismus; with Observations on Artificial Feeding, as a frequent Cause of this Complaint, and of other Convulsive Diseases of Infants. By James Reid, M. D., &c. London, Churchill. 1849. 8vo. pp. 204.

In the fourth volume of our new series we gave a rather lengthened review of a treatise by Dr. Horace Green, on "The Diseases of the Air Passages," in which the most prominent feature of interest was his original method of applying a caustic solution to the interior of the larynx. In the present instance, Dr. Green has produced a volume, which may very fairly be called a Treatise on Croup, but at the same time it would appear, that the main object in its publication is to bring under the notice of the profession his plan of treating this disease, by the topical application of solution of nitrate of silver to the tracheo-laryngeal mucous membrane. He first gives a good account of the affection, and quotes the opinions of the latest and best authorities upon its pathology; as nothing very novel, however, is put forward in this part of the work, we shall confine our attention chiefly to the new practice which he recommends, and, by so doing, hope to fulfil the main objects to be aimed at in a review, namely, to do justice tot he author, and to consult the interest of the reader.

Of the conclusions to which Dr. Green has come respecting the nature of croup, we quote the two following—his second and fourth,—as they have some bearing upon the question of topical medication.

"Its distinctive and essential characteristics consist in an inflammation of the secreting surfaces of the fauces, larynx, and trachea, which is always productive of a membranaceous or an albuminous exudation."

"The exudative inflammation commences invariably in the superior portion of the respiratory passages, and extends from above downwards,—never in the opposite direction."—p. 4.

There are few men of any experience who will entirely acquiesce in the former of these propositions; for it does not admit of question but that fatal cases of croup do occasionally occur, in which no false membrane is discoverable before or after

death. Dr. Ware, of Boston, is quoted by our author, as making an observation to this effect. On the other hand, there will scarcely be found any one to deny that the most remarkable pathological character of the complaint is the *tendency* to membranaceous deposition. Dr. Green's fourth position is laid down in the same positive terms, and, like the former, its accuracy will not bear a close scrutiny, although as a general rule it may hold good. It really surprises and grieves us to see a man of talent and observation, as Dr. Green undoubtedly appears to be, thus drawing such unconditional and sweeping conclusions. That croup, in the majority of instances, commences above (though not so high as the fauces), and propagates itself downwards, is an opinion supported by the highest authority; but that it occasionally pursues an opposite direction we are also bound to believe, on the testimony of Stokes, Copland, Porter, and other observers.

In the topical treatment of croup, Dr. Green has always employed a solution of the crystals of nitrate of silver, varying in strength from two to four scruples of the salt to an ounce of distilled water. The instrument for applying this is the same as that described in his former work, and is composed of a slender piece of whalebone, about ten inches long, slightly curved at one end, to which curved extremity is securely attached a small round piece of soft sponge, whose diameter should not exceed half an inch.

"The instrument being prepared, by suitably saturating the sponge with the solution to be applied, and the head of the child being firmly held by an assistant, and the base of the tongue depressed with a spoon, or any other suitable instrument, the operator carries the wet sponge quickly over the top of the epiglottis, and on the laryngeal face of this cartilage; then, pressing it suddenly downwards and forwards, passes it through the opening of the glottis into the laryngeal cavity."—p. 83.

The first objection that naturally presents itself to this practice, is the risk of its inducing spasmodic closure of the glottis. Let Dr. Green, however, speak on this head:

"Ordinarily, I have applied in croup, a solution composed of from two scruples to a drachm of the salt, dissolved in one ounce of distilled water. A remedy of this strength I have freely applied to the fauces, pharynx, and into the larynx of young children, in a large number of cases during the last eight years, and in no single instance have I observed any indications of the dangers of suffocation from its employment. On the contrary, I have repeatedly observed, and have once before remarked, that much less bronchial irritation is produced by the application of the nitrate of silver into the la-

rynges of young children who are suffering from croup, than when it is introduced into those of adults who are affected by chronic disease of the larynx."—p. 81.

There is no stage, whether of simple or complicated membranous croup, in which Dr. Green does not think that this plan of treatment, in combination with appropriate general remedies, is salutary. Several cases are detailed in illustration of the practice, and the remarks upon the general treatment of the disease are sound and judicious. On the whole we cannot but consider that Dr. Green is deserving of much praise for the ingenuity and zeal he has displayed in bringing to light this new remedy; and though we are not sanguine as to its utility in all stages and forms of croup, still we by no means wish to disparage or prejudge its efficacy. Had his investigations gone no further than to prove that a foreign body may, under certain limitations, be safely carried within the rima glottidis, he would have added to our physiological knowledge a fact of such great practical importance, that no one could venture to predict how far it may yet influence the treatment of laryngeal diseases.

We now turn to Dr. James Reid's work "On Infantile Laryngismus," and, after a careful perusal of its contents, hesitate not to say that it is an admirable systematic treatise upon the disease, and manifests throughout the sound practitioner and enlightened physician. His views respecting the primary or remote cause of the disease, so long a *questio vexata* amongst authors, are capacious and unbiassed. Instead of looking at the subject through a partial medium, and seeking to establish some one special cause (as most writers have hitherto done), he clearly shows that spasm of the glottis may arise from a variety of causes, of which the most frequent are, intestinal irritation, the result of an improper description of food, and impure air. Under the several heads of "History," "Symptoms," "Causes," "Diagnosis," "Treatment," &c. &c., every point of any interest, relating to this singular complaint, receives its full share of consideration, and controverted questions are discussed with calmness and judgment. His opinion as to its nature and cause is briefly expressed as follows:

"1. That, for the occurrence of this complaint, the cerebro-spinal system is required to be in a peculiarly excitable state, which thus acts as a *predisposing* cause. The period of teething is the most likely one to produce this condition.

"2. That during this irritable state of the nervous centres, the two most frequent (and in the majority of instances, the combined) causes are '*the improper description of food*' which is administered

to the infant, and ' the *impure and irritating* atmosphere' which it breathes."—p. 71.

Without actually denying the possibility of laryngismus depending on a cerebral cause (so much insisted on by some authors), he yet brings forward a large body of evidence to show that it very rarely proceeds from this source, and in this we quite agree with him. Many writers and practitioners still hold to the opinion of enlargement of the thymus gland being a common cause of the complaint; but Dr. Reid thinks that the arguments against Dr. H. Ley's theory will equally apply to this. The following extract we give as bearing upon this point, and also because it affords a fair specimen of our author's style, which is remarkably clear and intelligible:

" It would not be unreasonable to expect that such enlargement of the gland (thymus), and its consequent continued pressure against the trachea, would cause much more permanent effects than are visible in this complaint; and accordingly, in the cases quoted by Dr. Montgomery, from Lieutaud, of enlarged thymus in the adult, and in one seen by himself, it appears that the symptoms were in reality such as we might anticipate,—viz., pain in the chest, troublesome cough, *continued dyspnœa*, and difficulty of lying on one side, all showing the effect of continual pressure, but which are not the symptoms observed in infantile laryngismus. May not the hypertrophy of the thymus gland, when seen after a fatal termination of the disease, depend more upon the frequent straining during the attacks acting so strongly on these parts?"—p. 58.

In most of the cases related by the supporters of this theory, Dr. Reid shows that there exists evidence of alvine derangement having been present, and of an injudicious mode of feeding having been pursued. The evil effects of " rearing by hand," on infantile health generally, are described at some length, and abundantly illustrated by references to the statistics of several public institutions. This section, as well as that " on the diet of infants predisposed to convulsive affections," is truly excellent, and the principles laid down are based on extensive observation and sound physiology.

The plan of treatment recommended by our author is such as naturally follows from his views of the nature and causes of the complaint. No empirical or routine system is advocated; on the contrary, in each individual case, the sources of irritation must be diligently sought out, and, if possible, removed. Medicines of the purgative and antispasmodic classes are those upon which he seems to place most confidence; along with these, change of air is very desirable. The abstraction of blood he thinks is rarely beneficial or necessary, and in the

simple form of the disease, which he regards as dependent solely on irritability, is never resorted to by him. But for full information on this subject we must refer to the work itself, in which all the remedies for laryngismus are enumerated, and separately commented upon. It is with reluctance we take leave of this volume, but we can so confidently recommend it to the notice of our professional brethren, and its price renders it so accessible to all, that we deem it unnecessary to make any apology for the shortness of this review.

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1. *Portraits of Diseases of the Skin.* By Erasmus Wilson, F. R. S. London, Churchill, 1848–49. Folio. Fasciculi I. to V.

2. *Leçons sur les Maladies de la Peau; professées a l'Ecole de Médecine de Paris en* 1841, 1842, 1843, 1844. Par P. L. Alphee Cazenave, Médecin de l'Hopital Saint Louis, &c. Paris, Labé, 1845–49. Folio. Livraisons I. to VI.

3. *Bibliothèque de Médecin-Praticien.* Par une Societie de Médecine, sous la Direction du Docteur Fabre. Tome 8me. Traité des Maladies de la Peau et ses Appendices. Paris, Bailliere, 1848. 8vo. pp. 659.

4. *Eruptions of the Face, Head, and Hands, with the latest Improvements in Treatment of Diseases of the Skin.* Illustrated with coloured Plates. By J. H. Burgess, M. D. London, Renshaw. 1849. pp. 254.

5. *Portraits of the Diseases of the Scalp, with the safest and most efficient Modes of Treatment.* By Walter Cooper Dendy, Senior Surgeon to the Royal Infirmary for Children, &c. London, Highley. 1849. Royal 4to. Number 1. Four coloured Drawings.

Superficially measured, the most extensive structure of the human body, and endowed with a function one of the most important to a due preservation of health, the skin in its diseased states has at all times much engaged the interest of the physician; and we consequently find that, from the earliest ages of medicine, it has afforded a frequent theme for medical writers. Eruptive diseases of the skin are, however, so numerous, many of them bear such a close resemblance to each other, and present such varied aspects in their different stages, that mere verbal description has failed to afford sufficiently distinctive characters to render their diagnosis facile. Yet it is

singular that the attempt to elucidate this difficult subject by the aid of pictorial illustrations should not have been made previously to the commencement of the present century, and it is still more singular that the first illustrated work on cutaneous diseases,—that of Willan,—incomplete as it is, should remain almost without a rival, so far as regards truthfulness and accuracy of representation, to the present time.

There is no one circumstance, we are certain, which has tended more to increase the obscurity which even still enve lopes this class of affections, and to render their diagnosis more difficult to the physician unpractised in their observation, than the overcolouring and bad drawing which have been so universal in the many illustrated works on cutaneous diseases that have been published since the days of Willan; and the same defects occur even in some of those most recently issued from the Press, both at home and abroad. Another, and a very fertile source of difficulty in their study, has arisen from the confusion, both as regards classification and nomenclature, which has been not alone perpetuated but increased by each succeeding writer on the subject, with scarcely a single exception: author after author seems to have aimed rather at theoretical novelty than at practical truth.

Much of this must be ascribed to the publication of Alibert's magnificently illustrated treatise so immediately after that of Willan, and before the proposed arrangement of the latter had time to be sufficiently appreciated by the profession. Since then the many systems of classification put forward have been more or less based on that of either of these two celebrated men; but of one alone can we say that it has tended to elucidate or simplify the subject. The exception we make is that by Cazenave, contained in his splendid work, the title of which we have prefixed to this notice. A short outline of his arrangement will, we have no doubt, prove acceptable to our readers.

Cazenave fully recognises the great aid to diagnosis which a nomenclature derived from the exact form and character of the eruption gives, and therefore retains the names of Willan; but he adopts a classification calculated to afford correct views of the pathology and therapeutics of cutaneous diseases, and therefore based on their natural affinities. It is composed of eight groups; the first is entitled *Inflammations*, and is divided into four genera:—1. *Non-specific eruptions, capable of existing in either an acute or chronic form*, which includes erythema, erysipelas, urticaria, strophulus, herpes, eczema, pemphigus, impetigo, ecthyma, sycosis. 2. *Non-specific eruptions, existing always in a chronic form*, which includes rupia, lepra,

psoriasis, pityriasis, pellagra. 3. *Acute specific Eruptions:* roseola, rubeola, scarlatina, variola, vaccinia, varicella, miliaria. 4. *Chronic specific eruptions:* syphilides.

The second group is entitled, *Lesions of Secretion;* it consists of three genera:—1. *Lesions of follicular secretion:* acne, porrigo favosa. 2. *Lesions of epidermic secretion:* ichthyosis, horny productions. 3. *Lesions of secretion of the colouring matter*, which is subdivided into decolorations,—albinismus, vitiligo; and changes of colour,—bronzed tint, ephelidis, pigmentary nævi.

The third group is entitled *Hypertrophic Affections*—abnormal development of the parts diseased; in it are placed elephantiasis Arabum, molluscum, frambœsia, veruca, vascular nævi.

The fourth group is termed *Degenerations*—diseases which have a tendency to destroy the parts affected; it includes elephantiasis Græcorum, Aleppo tubercle, keloides, lupus, cancer.

The fifth group is named *Hemorrhagic Diseases*—affections characterized by the presence of blood, more or less altered, outside the vessels which ought to contain it (hemorrhage of the skin properly so called): purpura, melanosis.

The sixth group consists of *Lesions of the Sensibility of the Skin*—divided into, 1, hyperæsthesia, local or general, including lichen, prurigo; and, 2, anæsthesia.

The seventh group is termed *Foreign Bodies;* it contains, acarus (scabies), pediculus, pulex.

The eighth group, termed *Diseases of the Appendages of the Skin*, is divided into: 1. diseases of the hair—alopecia, canitia, plica; and 2. diseases of the nails—onyxia.

In putting forward this classification, which we commend chiefly for its simplicity, and the connexion retained throughout between pathology and therapeutics, the author modestly states, that it is not to be regarded as definitive or complete, but merely as an "attempt;" to receive modifications from experience and time, and thus be rendered eventually perfect.

Another method of arranging skin diseases, with a view to their description, has been adopted by many writers, with but few modifications since it was first proposed by Celsus in the twenty-eighth chapter of his fifth book; in it they are described with reference to the special part of the surface on which they appear. This plan of classification is by most authors incorrectly stated to have originated with Mercurialis, a physician of the sixteenth century, who published an excellent work on the subject. Its very great practical advantage is apparent to every one of the least experience, for we know how these affections differ in appearance as they occur on those parts of the skin

covered with hair, on parts usually protected from the air by clothing, and on surfaces always exposed. This is especially evident in eruptions which occur on the hairy scalp, and we consequently find that it has been adopted by many writers of modern days, amongst whom we may enumerate Mr. Erichsen, Mr. Wilson, Dr. Neligan(*a*), and the two authors, Dr. Burgess and Mr. Dendy, whose works are noticed in this review.

(*a*) As Dr. Neligan's Essay on Diseases of the Scalp appeared originally in our pages, from which it was reprinted and published in a separate form, we feel that we are in justice bound to insert the subjoined communication, which he has forwarded to us, in reply to a review published in the British and Foreign Medico-Chirurgical Review for April last.—Ed.

"Sir,—I mean to trespass but very shortly on your space, or on the patience of your readers, on a matter which, did I deem it personal to myself alone, I should not notice, but as I believe it to affect the honesty of purpose and professional feeling by which a medical reviewer ought to be actuated, I cannot pass it by altogether in silence.

"In the Number of the British and Foreign Medico-Chirurgical Review, for April last, my short Essay on Eruptive Diseases of the Scalp, which was inserted in the pages of your Journal, is noticed in a flippant review, consisting, as I hope to be able to prove to you, of a tissue of misstatement and misrepresentation, clothed in the common-place language and vulgar style of a writer attempting, but lacking the power, to be fine and caustic. As it is, however, neither my aim nor my ambition to imitate him, I shall at once proceed to 'the proofs.'

"The reviewer, exhibiting in the very first paragraph his peculiar style, starts with the observation that 'Dr. Neligan has made a *false* statement when he asserts that herpes capitis is the true ring-worm of the scalp!' 'Herpes is not ring-worm, nor is it an idiopathic disease of the scalp in any shape or form. That herpetic vesicles are to be seen on the forehead and temples, sometimes extending from the cheek in the form of herpes circinnatus, is quite true, but they never extend beyond the margin of the hair!' Now here the reviewer betrays at one and the same time his limited knowledge of medical writings, and his want of practical experience. Herpes circinnatus, when it appears on the face or body, is, to use his own elegant phraseology, known to 'every hospital nurse, nay, every old wife in the kingdom,' as ring-worm, and as being contagious; though in a subsequent paragraph the reviewer states that 'it has never yet been shown that any vesicular eruption occurring on the human skin is contagious.'

"The disease which I have described is this form of herpes occurring on the scalp, but presenting certain peculiarities, as most other eruptions of the skin do when they have their seat there. I have two sets of cases at present under my care which are strongly illustrative of the truth of my position. In three children of one family, whom I have seen with Dr. M'Cready, the disease, as he can bear testimony, agrees precisely with the characters I have laid down, and has appeared on the scalp alone; but the children's mother, who attended to their treatment herself, 'took the disease from them' (I use her own words), and got ring-worm,—herpes circinnatus,—on the backs of her hands. The second instance, Mr. Finucane has seen with me: four children of the same family are affected; the disease in the two elder is present on the face, body, arms, and scalp; in the two younger on the scalp only: in the former some of the rings run directly from the face and back of the neck up into the scalp, where they alter in character, and are precisely similar to the eruption seen in the younger children, and in the

Having premised so far on the classification of diseases of the skin, we shall now proceed to our immediate object, the bringing before our readers some of the more recent publications on these difficult and little understood affections, and endeavouring to give a just estimate of their value.

Of Mr. Wilson's ambitious undertaking, five parts, each

first cases I have referred to. Here too the mother contracted the disease on the backs of her hands; and three of the children were stated to me to have taken it from the fourth, who returned affected with it from a school where the eruption prevailed among the boys. I may add that Biett and Alibert have both described a contagious form of herpes.

" ' No form of herpes,' says the reviewer, ' ever terminates in a true scale, but rather in a kind of film.' Now what says M. Cazenave, probably the most distinguished dermatologist of the present day, in his magnificent folio work at present in course of publication. At page 46, when describing the different varieties of this eruption, he says of one: ' Cette variété de marche, plus fréquente peut être qu'on ne le croit, a une valeur réelle; elle suffit pour constituer une espèce à part que j'ai appelée *herpès squameux !*'

" In the fourth paragraph the reviewer exhibits an obtuseness always inclined to cavil at trifles. He writes: ' At page 15, Dr. Neligan says that impetigo is the only pustular disease which is met with on the scalp, a statement equally erroneous,' &c. The simplest capacity can here understand that I refer only to those affections peculiar to the scalp, for in the introduction I state that I exclude from my arrangement psoriasis, lepra, and ecthyma, as being very rarely met with there, unless in connexion with their existence on the skin generally.

" My division of diseases of the scalp into inflammatory and non-inflammatory is a grave offence; I should, forsooth, have pleased the reviewer by dividing them into acute and chronic. It is much to be regretted that a member of the *corps de revue* should be so ignorant as not to know that both inflammatory and non-inflammatory diseases have their acute and chronic stages.

" The next three paragraphs require but a single comment, they are excellent examples of praise grudgingly bestowed in the form of a short analysis of my views. The observation I purpose to comment upon is the following: ' The author need not go farther than his own *excellent* work on the Uses of Medicines.' When the first edition of my work on medicines was published it was most favourably reviewed in all the British medical journals with but two exceptions,—the defunct quarterlies, the predecessors of the present British and Foreign,—in both of which it was, as time has proved, most unfairly condemned; but now, when the reviewer's opinion can no longer injure it, their successor, with a show of liberality, terms it an ' excellent work on medicines.'

" I now come to notice the last portion of this review, in which my observations on porrigo capitis are commented on. I am first found fault with because I state my belief in the vegetable nature of the growth on the scalp, following in the wake of observers, both continental and British, much more worthy of credit than the anonymous scribe in the British and Foreign Review, and satisfying myself of the correctness of their views by personal examination of the diseased product in *two* instances. I might certainly have examined it in a greater number of cases, although the disease is not common; but I think the profession will agree with me that, as I was merely verifying what was previously noticed, and not engaged in a new discovery, I took sufficient pains before I was ' convinced.'

" The reviewer next displays his ignorance of logic in an attempt to

containing four plates, have been published; the object of the author is, as he himself remarks, well represented by the title he has chosen. Bound down to no classification or pre-arranged plan, he is enabled to select the most characteristic and best example of each particular disease, which he would be unable to do were he compelled to follow any regular sequence in the

parade his knowledge of it, and at the same time be witty at an author's expense; his observations are too futile to require exposure, I would merely remind him that there are two premises in a logical corollary, and that of these the *minor* is very commonly suppressed, as I have done. His not knowing this fact, and his acquaintance with "Bob (not *Bob's*) Logic," is a sufficient proof in what school he has himself studied.

"The last paragraph but one contains two charges: first, that I am guilty of 'empiricism, and irrational empiricism too;' and second, that I claim to have been the first to use an ointment 'composed of' (I suppose he meant 'containing') 'iodide of lead, in the treatment of porrigo capitis, M. Hebra of Vienna having employed it for years.' The first charge is easily disposed of. My *quackery*, according to the reviewer, consists in the recommendation of a *local* remedy to destroy the vegetable growth on the scalp, *at the same time* that I advise the administration *internally* of medicine which will act constitutionally, so as to prevent its reproduction. The reviewer's 'rational treatment'—I quote his own words—'would be, to endeavour to remove the vicious state of constitution, by which the seeds of the disease were generated, *before* having recourse to any *local* measures, other than those of cleanliness.' I leave the profession to decide which of the two proposals would be likely to prove most beneficial; and from the grounds on which a charge of 'irrational empiricism' is made against a brother practitioner, to judge of the truth and impartiality of the British and Foreign Review. As to the second charge, I will not say that it is false, although I believe it to be so. I was not aware that Hebra, or any other physician, had employed this preparation as I have done in porrigo until I saw it stated here. His use of it is not mentioned in any of the British, French, German, or American works on materia medica that I have had access to, amounting to no small number; and I have been unable to procure any work of Hebra's on skin diseases through the London or Dublin booksellers. But as I was aware that my friend, Dr. Alexander Fleming, of Edinburgh, had attended the clinique and lectures of Hebra in 1847, and my first published case occurred in 1846, I wrote to him on the subject, and from his reply I quote as follows: 'In my notes of Hebra's lectures, which are tolerably full, I find no mention whatever of the employment of iodide of lead in skin diseases, nor do I recollect ever seeing it employed in his wards, which contained, during my attendance, many specimens of diseases of the scalp.' So much for the reviewer's last charge.

"And here, Sir, I must conclude, as I do not wish to trespass too much on your pages. My object has been to set myself right with the profession, and at the same time to exhibit the *anti-Irish* character of the British and Foreign Medico-Chirurgical Review, especially under its present management. To judge, indeed, from this April Number, in which four works by Dublin physicians are disparagingly reviewed, we must suspect that it has adopted as its motto a not uncommon conclusion of advertisements in the *Times*, 'No Irish need apply.'

"I have the honour to be, Sir,
"Your obedient servant,
"J. Moore Neligan.

"*Dublin, July* 2, 1849."

production of his illustrations. And by the artist the advantages are obtained of "transferring his drawing immediately to the stone, and of being enabled to complete his colouring of the lithograph from the patient, and while all the peculiar tints of the disease are fresh in his mind." The letter-press consists of a report of the case of the patient from whom the illustration is obtained, "with such general deductions and practical observations introduced among the details of the case, as may tend to explain more fully the history and management of the disease."

In the first fasciculus we have an illustration of chloasma or liver-spot, a most faithful representation of a not uncommon alteration in colour of the skin, which is often mistaken for pityriasis; but our experience differs from that of Mr. Wilson in the relative frequency of the two, for we have seen the latter very much oftener than the former. Two illustrations of favus, or honeycomb ringworm, representing different stages of the disease in the same individual, are given; excellent drawings, and unmistakeable portraits of the disease, but not in so inveterate a form as we sometimes meet with it in Ireland. We regret that in the letter-press description of the case the author has not even adverted to the vegetable theory of this eruption; we know that his disbelief in this doctrine is quite decided; but although he may not himself have been able to recognise a fact stamped with the authority of some of the most experienced and celebrated microscopical discoverers of the age, he might at least have given his readers the option of judging for themselves, by referring to the results they have arrived at. The fourth plate is a good portrait of psoriasis palmaris, though certainly not, to our eye, nearly so faithful as that contained in Willan's quarto volume.

The first and second plates of the second fasciculus present admirable illustrations of lupus exedens serpiginosus in the stages of ulceration and of cicatrization. The third is truly a portrait of lichen agrius dorsi manus, a disease very frequently mistaken for, and described as, a form of psoriasis, eczema, or impetigo, yet so commonly known to all by the vulgar names of baker's, grocer's, or washerwoman's itch. The fourth plate represents two forms of disordered chromatogenous function, melanopathia and leucopathia. We have been recently asked to prescribe for a case bearing the closest resemblance to the one here described by Mr. Wilson.

The third fasciculus contains a plate of acne vulgaris, not the happiest of Mr. Wilson's portraits; an illustration of an eruption on the palm of the hand, which he terms erythema

annulatum, and of which he states that he has seen but two instances, but which we look upon as a variety of psoriasis palmaris, an opinion confirmed by the author's description of the case; an admirable illustration of urticaria perstans; and a drawing of a leg affected with melanopathia syphilitica. We cannot imagine how Mr. Wilson could have been tempted to publish the last as a portrait of this disease, to which it does not bear the least resemblance; it is, in fact, an excellent and unmistakeable specimen of what, in several country districts of Ireland, is called "trouts,"—a mottling of the skin of the legs, produced by constantly sitting opposite and close to a fire. Of this the author seems to have been aware himself, for he refers to its resemblance to the discoloration of the legs so frequently seen among the lower class of women in Paris, and attributed to the constant use of the "chauffrette;" moreover, in the case represented, he could not trace any primary syphilitic disease. We have at present under our care a case of melanopathia syphilitica of the legs, which could not possibly be diagnosed by a comparison with Mr. Wilson's portrait.

In the fourth fasciculus three forms of lichen are beautifully illustrated, namely, lichen simplex, the most faithful and best finished drawing of a skin disease we have ever seen; and lichen syphiliticum, *var.* disseminatum, and *var.* tuberculatum. The fourth plate is a good representation of roseola syphilitica, but Mr. Wilson observes that, "as it presents all the typical characters of the common roseolous rash, it may be accepted as a correct representation of idiopathic roseola." With him, however, we cannot agree, for the difference of the colour is too great, and might tend to mislead the inexperienced.

The first portrait of the fifth fasciculus is of a rare and remarkable affection, kelis, or as it is now commonly termed, keloides, which is classed by the author amongst "tuberculous affections of the derma." The growth in this case was unusually large and peculiarly shaped, but the symptoms did not seem to differ from those of other cases on record. The three other plates are of icthyosis,—or, as Mr. Wilson has rather pedantically chosen to term it, "xeroderma icthyoides,"—of lepra vulgaris, and of psoriasis vulgaris. The two latter, we must confess, have disappointed us much; the specimens of the two diseases chosen, bear too close a resemblance to each other to exhibit to the eye the distinctive characters of each; and neither of the plates is sufficiently *scaly* to represent nature.

Our estimation of Mr. Wilson's portraits of diseases of the skin may be readily judged from the full sketch we have now given of them. Taken together, equally perfect in artistic

skill, judicious selection, and close imitation of nature, their publication is no small boon to the medical profession, and one for which we most cordially offer our thanks to the author and spirited publisher. We have but one suggestion to offer to Mr. Wilson,—to select for publication, as far as practicable, in his earlier fasciculi, portraits of *generic* eruptions; he will be thus enabled to complete his publication much sooner, and take away from it the indefiniteness of completion which it now promises. If we are to have but eight plates published annually, it could not possibly be completed in the lifetime of any ordinary individual, should the present system of representing rare and *specific* eruptions chiefly be continued. To the artist we must say, that we would prefer a little more of the care he has bestowed on the accessaries of the portraits, namely, the dress, &c., of the patients, applied to the delineation and finish of the disease represented.

M. Cazenave's magnificent work is a fit companion for that of Mr. Wilson, and we should not wish to draw any invidious comparison between them. It consists of his lectures on diseases of the skin, illustrated by folio coloured engravings on copper, from drawings by Bocourt. Each livraison contains five illustrations; of these six have been published, one appearing every two months, and it is expected that the entire will be completed in about twelve numbers.

The third work on our list forms one of the volumes of what is intended to be a complete library of practical medicine, now in course of publication under the superintendence of Dr. Fabre. No pretence to originality is made in any part of the series; it consists entirely of selections from the best writers of every country, on each subject, strung together by the editor. Being exceedingly well and judiciously executed, though in defiance of both the law and justice of copyright, it forms a most useful work of reference, and is especially valuable to the medical writer or lecturer. There are no illustrations given with it, nor is it announced that any are to appear.

Some years since Dr. Burgess published an English translation of the excellent French manual of MM. Cazenave and Schedel on Diseases of the Skin, and having applied himself especially since then to the study of this class of affections, we are now presented by him with an original work on those eruptions which occur on the face, head, and hands. He states in

his preface that he is indebted for the greater part of the information contained in the volume to the hospital of St. Louis in Paris, and to Biett and Cazenave; he has also observed the Italian treatment of skin diseases, "particularly in the hospitals at Rome, Florence, and Milan." The plan adopted by the author is a good one, and the task he has undertaken is very fairly executed; we must, however, acknowledge that we should prefer a work, the conclusions in which were drawn from the results of practice at home, as difference of climate produces a most marked effect on diseases of the skin, and consequently on their treatment. Dr. Burgess's work is, therefore, chiefly valuable as enabling the British physician to test fairly the practice adopted by his continental brethren in those so generally intractable affections.

We do not purpose to enter into any review of the contents of this volume; on many points we differ from the author, but we hold that any writer who supports his opinions with arguments deduced from practical experience is fairly entitled to that estimate of value which a reader may place on them without being biassed by the "we" of the critic, unless when the statements put forward are manifestly incorrect. To this latter charge Dr. Burgess has left himself open at page 227, where he describes psoriasis dorsalis, following the mistake so commonly made, and which we have already adverted to when describing Mr. Wilson's plates.

Dr. Burgess has appended to his volume one plain and four coloured drawings. The former affords an excellent illustration of our present state of knowledge as regards the anatomy of the skin and its functions, and is selected from MM. Breschet and Roussell's *Nouvelles Recherches sur la Structure de la Peau*, published at Paris in 1845. Of the coloured plates, three are reduced copies from Cazenave's large work, and the fourth, which is an original drawing of acne, is so exceedingly unlike that disease that it might almost as well receive any other name. All these coloured illustrations, indeed, are badly executed; and we cannot avoid regretting that the beautiful originals, which we have just introduced to our readers, should have been so miserably travestied. Fortunately for the intending purchasers of Dr. Burgess's volume, an edition is published at a much lower price, without the plates.

We had expected much from Mr. Dendy, from the opportunities he has for so many years enjoyed as senior surgeon to the Royal Infirmary for Children in London, but we have been

most grievously disappointed, both in the letter-press and illustrations contained in this first part of his work. Assuming the title applied by Mr. Wilson to his plates,—a most unwarrantable plagiarism,—we reasonably enough thought that we should have seen "portraits" of diseases of the scalp, but did not for a moment imagine that we were to be presented with vile caricatures. Mr. Dendy ought at least to have learned "from his long and careful observations in public and private practice," of which he boasts in his introduction, that eruptive diseases of the scalp are not be laughed at. We therefore think his present publication most uncharitable towards his patients, as it cannot fail to excite the laughter of the profession; and we entreat of him, when he is next about to exercise his caricaturing powers (the drawings are his own), to choose a less serious subject.

To be serious ourselves,—which indeed we find it very difficult to be with Mr. Dendy's "portraits" open before us. The four plates contained in this number are published as lithographic representations of what the author terms crustula granulosa, crustula scabrosa, crustula viscosa, and crustula favosa. Were it not that he has given a long list of synonymes of each, we should have supposed that he was illustrating some new eruptions of the scalp, so unlike are his drawings to anything we have seen in nature, though it is stated on each that they are drawn from life. We will not waste our own time, or our readers' patience, by attempting any description of them, but we must confess our regret that the respectable publisher, whose name appears on the cover, should have permitted such burlesques on art to have issued under his auspices; a mere glance at the first drawing in the number must have convinced him that, from its close resemblance to a shower of small pebbles falling on the head of a child cut out of pasteboard, it could not possibly be a representation of an eruptive disease having its seat on the head of a living being.

The author's descriptive powers with his pencil are only to be excelled by those with his pen. Meagre and confused in the extreme, they exhibit about the worst specimen of medical writing that it has ever been our critical duty to notice; indeed we are almost ashamed to have classed such a publication with the other works we have spoken of in this review; the only apology we can offer for doing so is, that our position as faithful journalists would not permit us to pass it by without severe condemnation, and its marked inferiority forbad our devoting a distinct article to a notice of it. The amount of information contained, its character, and the style of the author,

may be judged from the very last paragraph; we cannot afford a longer quotation. He is speaking of the treatment of favus:

"At the same time, cinchona in camphor mixture, with highly nutritious diet, should be administered, with sea air, gentle exercise, &c., to restore the systemic energy."

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1. *General Board of Health: Report on Quarantine.* Presented to both Houses of Parliament by Command of Her Majesty. 8vo. pp. 172. London, Clowes and Sons. 1849.

2. *Report on the Fever at Boa Vista.* By Dr. M'William. Presented to the House of Commons in pursuance of their Address of the 16th of March, 1847. 4to. pp. 112.

3. A "*Copy of Dr. King's Report on the Fever at Boa Vista.*" Return to an Address of the Honourable the House of Commons. Dated 4th of February, 1848. 4to. pp. 16.

4. *A Letter addressed by Sir William Pym to the Lords of the Council, relative to a Report on the Fever at Boa Vista, by Dr. M'William.* Presented to the House of Commons, in pursuance of their Address of May 14, 1847. 4to. pp. 16.

5. *Dr. M'William's Remarks on Dr. King's "Report on the Fever at Boa Vista."* Ordered, by the House of Commons, to be printed, 10th March, 1848." 4to. pp. 15.

6. *Return to an Address of the Honourable the House of Commons, for "Copy of the Letter of the Superintendent-General of Quarantine (Sir William Pym), to the Lords of the Privy Council, in Reply to Dr. King's Report upon the Boa Vista Fever, said to have been introduced into the Island by the 'Eclair' Steamer."* 4to. pp. 15.

7. *Observations upon Bulam, Vomito-Negro, or Yellow Fever, with a Review of a "Report upon the Diseases of the African Coast, by Sir William Burnett and Dr. Bryson," proving its highly contagious Powers.* By Sir William Pym, K. C. H., Inspector-General of Army Hospitals, and Superintendent-General of Quarantine. London, Churchill. 1848. 8vo. pp. 311.

Every one admits that the practice of quarantine inflicts very much personal annoyance and commercial inconvenience. A confinement of fourteen days in a dull and monotonous lazaretto, or in a small and uncomfortable ship, with stupid com-

panions, and nothing to be seen but the far-spread sea and sky, except it may be the scorched and arid heights of Malta, is sufficiently unpleasant to the young and ardent traveller, burning to realize those scenes of oriental witchery in which his imagination had so often revelled. And in these days of steam ships, and railroads, and penny-postage, when neck and limb are little accounted in the eager desire for electro-winged intelligence or rapid transit, it must seem to the all-venturing and competing merchant, not only an impediment, but an absurd mockery, to see his goods tossed, and exposed, and fumigated, during days or weeks, while in the mean time his calculations are disarranged, and so much of his capital is lying unproductive. But these are evils inseparable from the practice of quarantine; how much are they increased, and how often are others superadded, by the duplicity and roguery of those to whom its administration is frequently intrusted! False reports of epidemic diseases, circulated by commercial gamblers to interfere with free pratique from particular ports; political animosities gratified by the infliction of comparatively lengthened detention of the ships of certain nations; these, and many other considerations, have long caused British statesmen of very opposite parties to look with much disfavour on quarantine regulations, and to desire to relax them as much as possible. If it be proved that quarantine is unnecessary for the preservation of the public health, no one can be desirous for its continuance, except perhaps the officials who are paid for its administration.

The difficulty of enforcing a strict quarantine does not properly belong to the question, because, if it be necessary for the public health, it ought to be strictly enforced; and any negligence or laxity which may have been hitherto permitted in its execution would in this case only be an argument for more stringent regulations. It may, however, be used as a proof of the little faith which quarantine officers in this country have in the power of fomites to convey disease, the very imperfect manner in which they habitually carry out the orders of Council for the purification of goods from infected places. By order of Council, cap. xxxii., it is regulated, that "all bales of cotton shall be opened from one end to the other, and so much taken out as to leave room for handling daily the interior of the bale;" but the evidence given before the Committee of the House of Commons in 1824 shows that this order is not obeyed. Mr. Sanders, superintendent of quarantine, is asked:

"Are there any of the first class of goods ever left without the probationary airing?—Yes. Is it not as necessary that the whole should be aired as any part?—So it would appear; but in the case

we had within these few days, of a ship from Alexandria, with a thousand bales of cotton, it would have been impossible to air those within fifteen days upon deck. The bales of cotton are cut open? —They are. And the cotton is aired upon the deck?—Yes. The cotton is ripped open from one end to the other, and some of the interior removed. Is the whole of the interior of the cotton opened to the air?—Not with a clean bill of health."—*Report on Quarantine*, p. 69.

Now it is to be remarked that the order of Council makes no distinction founded on the bills of health; and on the presumption that fomites can convey contagion, this want of distinction is unjustifiable; for, as Dr. Maclean says:

"A ship sailing with a clean bill of health might have her cargo foul, as having been packed and shipped during the prevalence of plague; whilst a ship sailing with a foul bill of health might have her cargo clean, as having been packed and shipped previous to the commencement of the pestilence."—*Report on Quarantine*, p. 67.

"In Ireland, however, whether the vessel arrives with a clean or foul bill of health, there appears to be no airing of the cargo whatever. Mr. James M'Neil, superintendent of quarantine at Carlingford, in his evidence before the Committee states: 'There is no floating lazaretto, nor any lazaretto on shore, at Carlingford. There is no other place to air goods than the deck of the vessel in which they come. In the last three years there have been forty-two vessels. There is no means of examining or airing the cargo with a foul bill of health. They never do more than hoist the bags upon the deck, as many as they can get at near the hatches. Believes the bags have never been opened. The captains have always stated to him that it was impossible to do it. Has never heard of any sickness at Carlingford. There have been arrivals from Smyrna, and he believes with hides and skins from Africa. There is no physician within ten or twelve miles. Vessels with foul bills of health, he understands, have repeatedly arrived at Carlingford. In point of fact, a bale of cotton is not opened at any time. There has sometimes been much cotton and rags.' "—*Report on Quarantine*, p. 70.

Now these extracts show that the practice of quarantine regulations has been so careless and lax, that they do not afford, at least as far as fomites are concerned, the slightest protection. Yet neither the quarantine officers in England, who do handle to some extent the cargo, nor the operatives in the factories in Ireland, who work with cotton which must often be infected, and which has never been purified, have in any instance, during the last century and a-half, exhibited a symptom of plague or yellow fever. We do not say that this fact is sufficient to disprove the doctrine of contagion through fo-

mites, but it at least demonstrates the inutility of quarantine regulations.

It may be perceived that we are not by any means advocates for the continuance of quarantine, at least in the British Islands. Indeed we do not hesitate to say that we consider its practice in these countries positively injurious, from the alarm and excitement it invariable produces. Read the following extract from a letter by a young lady detained in quarantine, after her passage from Hamburgh.

"It is all very well to say, 'don't be afraid of the cholera;' but those who have seen what I have within these last few days will feel differently. On our arriving at Gravesend, a custom-house officer came along side, and told the captain the ship must be kept in quarantine, and that if he allowed any of the passengers or crew to land he might be shot. They then took away our letters without coming on board, and said they would send every day for the letters. You can imagine our consternation and alarm, and then the horrid yellow flag! and we were told that if any one was taken ill, or died, we should be detained I know not how long! Another ship was near us, also in quarantine, and with a sailor in it, who had died. Soon we saw this ship moving slowly down the river to the Nore, that the body might be committed to the deep. Although it rained in torrents, we saw all the passengers standing on the deck, as they were afraid to go below for fear of the cholera. If you could have seen that melancholy sight! I shall never forget it. Need I endeavour to paint to you our feelings, not knowing how soon we might be in the same sad predicament. How we counted the hours, and how we rejoiced when the welcome news reached us that we might land once again in England!"—*Report on Quarantine*, p. 132.

Now this poor lady might have avoided all this fright and annoyance, if she had gone round by Ostend instead of embarking from Hamburgh; yet the danger of communicating the disease by contagion would be as great in the one case as in the other.

It seems to us that the proper way to view the question of quarantine is, to inquire how experience has shown it to act as a preventive against the three diseases to which it is especially applied; these are, plague, yellow fever, and cholera. We have seen that the regulations intended to keep off plague have been so loosely executed, that in reality no impediment to the ingress of plague exists; and yet this disease has not shown itself in Great Britain for the last century and half. Indeed we have a right to conclude that, in the improved sanitary condition of England, plague could not exist as an epidemic. Yellow fever, again, is essentially a tropical disease, and, as such, has never forced its way into the British Isles,

except to such an insignificant extent as to be unworthy of legislative notice. Lastly, the experience which we possess of the progress of cholera over the face of the globe justifies us in the belief that no strictness of quarantine arrangements could, in a country having such numerous and complicated relations with other nations as our's, effectually exclude that disease from our shores. Experience thus shows us that quarantine is unnecessary for keeping out plague and yellow fever, while it is useless when opposed to cholera.

It may be alleged that, although quarantine may seem to us unnecessary and useless, yet in the present state of opinion amongst continental nations, it is right to maintain the restrictions it imposes, inasmuch as otherwise much inconvenience might arise from the alarm with which our ships might be regarded in foreign ports. But the Reports of the Commission of the French Academy, that of Professor Sigmund to the Austrian Government, and the conduct of Holland, which has never instituted any regular system of quarantine, lead us to believe that the great nations of Europe are, as regards this matter, in advance of our own. France has abolished quarantine with Algiers since it came into her possession; and the Report of the Special Committee of the House of Assembly of New York, in 1846, demonstrates that public opinion in America is advancing in the same direction. But, if it were otherwise, and that all the rest of the world had the greatest faith in the efficacy of quarantine, such a consideration ought not to influence the conduct of the British Legislature; for experience proves that, at the very time when quarantine has been put in force in this country, the nations that still believe in it have put restrictions on their intercourse with us. Thus, as soon as it became known that the Eclair was put in quarantine, Lisbon and Naples at once refused admission to British ships. In truth, as long as we have yellow flags and quarantine stations, and an omniscient and world-blabbing Press to spread abroad the tidings of dismay and pestilence, so long will less enlightened and more prejudiced nations emulate us in the race of error.

The strongest argument against the continuance of quarantine is certainly this,—that it is not only mischievous in interfering with commerce, terrible to the feelings of those that are subjected to it, an instrument of abuse in bad hands, useless in some instances and unnecessary in all,—but that it actually produces the very evil that it is intended to prevent. What better way could be devised for generating an infectious disease, than by shutting up a number of persons in a confined

and dirty ship, off a stagnant coast, without medical advice, with unusual provisions, without occupation, and, to sum up the whole, with spirits disheartened from the very cause of their proscription. Dr. Johnson said, "a ship is a prison, with a chance of being drowned;" but in quarantine, off Stangate Creek, there is not even the latter stimulus to relieve the tedium of detention. The sanitary condition of our shipping is indeed very bad under ordinary circumstances; how much worse must it be when the vessels are detained in quarantine? A great improvement has certainly been effected, both in the naval and merchant services, in comparison with their condition during the last century, when whole crews were sometimes swept away by scurvy or ship fever; but in small vessels and emigrant ships great improvements are still required. This will be at once seen by a comparison of the causes of mortality between seamen and the inhabitants of cities. In London 27 per cent. of the deaths occurring yearly among all classes and at all ages, die of epidemic, endemic, and contagious diseases; of the deaths occurring at the age of 15 and upwards, only 6·7 per cent. are from these causes; amongst artisans of all ages 21·5 deaths per cent. proceed from the classes of diseases mentioned; whilst 55·9 per cent. of the deaths of seamen dying at sea occur from fevers, cholera, influenza, scarlatina, &c. This is a tremendous mortality from zymotic diseases; and it is to be observed, that it has been well ascertained when there is a high mortality from these causes, the general mortality is also always high. Passengers on board ship are, it would appear, much more liable also to epidemic, contagious, or endemic diseases, than similar persons on shore. And this excessive mortality is easily explicable by an examination of the circumstances under which emigrants and sailors live.

Mr. Bowie says:

"I am of opinion that the houses and rooms in the close courts of Whitechapel, which I habitually visit, do not, as a rule, exceed, in the unhealthiness of their condition, the forecastles of ships, in which the filth is often as great, the air as close, stifling, and offensive, and altogether as likely to generate fever, and to cause it to spread if it does break out."—*Report on Quarantine*, p. 99.

Dr. Duncan, medical officer of health for Liverpool, speaking of the forecastles of the smaller ships in the Mersey, says:

"These places might properly be termed floating cellars, although they are in no respect equal to the inhabited cellars of Liverpool. Such cellars on shore, indeed, would be condemned as unfit for habitation under the provisions of our Sanitary Act."

When we couple the foregoing descriptions of the habitations of our merchant sailors with the peculiar influences to which they are exposed,—the odoriferous gales of bilge water within the vessel, and the perfume arising in rivers from littoral surfaces uncovered by the receding tide,—it is not difficult to understand why sailors should be peculiarly subject to fevers and analogous diseases.

An Irish gentleman, affected by the accounts so commonly received in this country, of the frightful sufferings and mortality among the poor emigrants in 1847, had the magnanimity, in the effort to alleviate them, to subject himself to dangers and privations, at the mention of which even the laurels of a Howard must pale. Hear his description of an emigrant ship, even under the recent regulations, under the superintendence of zealous and able government agents, and the danger of heavy penalties for the infraction of rules:

"Hundreds of poor people, men, women, and children, of all ages, from the drivelling idiot of 90 to the babe just born, huddled together without light, without air, wallowing in filth, and breathing a fetid atmosphere, sick in body, dispirited in heart; the fever patients lying between the sound, in sleeping-places so narrow as almost to deny the power of indulging, by a change of position, the natural restlessness of the disease; by their agonized ravings disturbing those around, and predisposing them, through the effects of the imagination, to imbibe the contagion; living without food or medicine, except as administered by the hand of casual charity, dying without the voice of spiritual consolation, and buried in the deep without the rites of the Church. The food is generally ill-selected, and seldom sufficiently cooked, in consequence of the insufficiency and bad construction of the cooking-places. The supply of water, hardly enough for cooking and drinking, does not allow washing. In many ships, the filthy beds, teeming with all abominations, are never required to be brought on deck and aired; the narrow space between the sleeping-berths and the piles of boxes is never washed or scraped, but breathes up a damp and fetid stench, until the day before arrival at quarantine, when all hands are required to 'scrub up,' and put on a fair face for the doctor and Government inspector."

Yet in this horrid den this noble-spirited gentleman immured himself, for the purpose of becoming fully informed as to the evils under which his emigrating countrymen laboured; and, if it should come about, in that future where the only hope of Ireland lies, that her sons may be permitted to stay at home or go abroad surrounded with some portion of those comforts which attend the children of other and more favoured lands,—deep in their grateful memory, as one of the most devoted of her patriots, be the name of Stephen De Vere.

The condition of sailors in small ships, and of the poorer emigrants even in large vessels, being such as has been described, we may well imagine the effects of quarantine in exaggerating their sufferings; and we again ask if it be possible for human ingenuity to devise a more likely combination of circumstances whereby to generate an infectious disease? It is not necessary for the argument to add any fictitious colouring to render the mischiefs of quarantine more distinctly manifest than the simple facts represent them; and we, therefore, regret to find the Board of Health availing itself of very equivocal, and, occasionally, of evidence already rebutted, in its anxiety to plead for its favourite cause. Thus Sir W. Burnett's exaggerated description of the detention of the Eclair is alluded to without the slightest hint that Sir W. Pym had distinctly contradicted several of the assertions contained in that description (Pym on Yellow Fever, p. 159); and again, the Board thinks proper to reiterate the charges commenced by Dr. Bryson against the salubrity of Stangate Creek, although without other testimony than the grumbling of naval officers, who, no doubt, find it a very lonely and irksome station,—"enough to give a fellow the plague to look at it," as one of them very characteristically remarks; and yet it is a well known fact that this very locality is the spot in which her Majesty's ships *in ordinary* have been laid up for years; that Dr. Brown, the medical superintendant for the last twenty years, has given a favourable account of its healthiness; and, lastly, that its salubrity or insalubrity has just as much to say to the question of quarantine, as Goodwin Sands have to Tenterden steeple. We repeat, that we regret that the Board of Health should have, in any degree, mixed itself up with the official squabbles between the heads of the naval, medical, and quarantine departments, particularly as we suppose truth, and not special pleading, to have been its object. And we confess that, in our unbiassed judgment, we consider that, on its own merits, the cause of quarantine stands condemned as being inefficacious as regards the objects for which it was intended, and injurious in its direct operation.

We perfectly agree with the Board of Health as to the substitutes for quarantine which should be instituted. The following extract so fully expresses our own sentiments, that we prefer quoting it rather than attempt describing them in words of our own:

"That as far as relates to the causes of epidemic diseases generated at sea, the principle of the concentrating of responsibility on the shippers, in making it their pecuniary interest to complete the

voyage with healthy passengers, operates most effectually in the cases where it has been applied, such as to emigrant, transport, and convict ships, and should be extended to all cases; and that, in respect to ships in port, the regulations applied to the prevention of the spread of epidemic diseases from houses in towns are applicable, and would practically be highly beneficial. That the substitution of general sanitary regulations to ships in port, for the existing quarantine regulations, would far more effectually extinguish epidemic disease, and afford better protection to the uninfected on shipboard, whilst it would relieve passengers and crews from grievous inconvenience, abate the motives to concealment of sickness and to false representations as to its nature, greatly lessen commercial expenses, and remove obstructions to the free transit of goods and uninfected persons which the existing system of quarantine occasions."—pp. 126, 127.

We have discussed, in the preceding pages, the arguments and recommendations which have issued from the Central Board of Health, with regard to quarantine; and we have done so, we hope, with sufficient liberality and moderation. We have considered the question of a repeal of the laws on its own merits, as judged by the standard of experience; and we have studiously refrained from complicating the subject by any reference to the contagiousness or non-contagiousness of disease, believing these to be topics entirely beside the question. If there be no such thing as contagion, then quarantine is manifestly useless; but if certain diseases be capable of propagating themselves from individual to individual, in that case the restrictions of quarantine ought to be immediately removed, as soon as it is shown that those restrictions are ineffectual in preventing the importation of disease; for, under such circumstances, it would be unnecessarily cruel to confine uninfected passengers and sailors in dangerous proximity to the sick. The Board of Health acknowledges this truth; it says that contagion "has nothing whatever to do with quarantine, the sole inquiry, with reference to this question, being, whether, however epidemic diseases may arise, quarantine can prevent their introduction into the country, or arrest their progress when there." Strange to say, however, after giving expression to so strong an opinion, the learned Board at once rushes into a discussion with respect to the doctrines of contagion; dogmatises most consequentially on a subject with which, according to its own showing, it had nothing whatever to do; and, finally, shelves itself on the very reef which, according to its own chart, lay entirely out of its course. The Earl of Carlisle and Co. have taken possession of the professor's chair, and announce, *ex cathedra*, the opinions which British subjects are

hereafter bound to entertain. But first it is necessary that the doctors should be put out of court. "You may go down, Gentlemen; your evidence in this cause is totally inadmissible. It is true, it is part of your special business; no doubt you have the best opportunities of observing; your minds are the best educated for investigating; you have no especial interests to serve to swerve you from a just conclusion; you have nothing else save truth to reverence; yet somehow everybody else, the minister, the speculatist, or the journeyman tinker, is just as competent to reason on this matter as you are."

"It is remarkable that the change of opinion which has taken place on this subject, in Great Britain, has advanced with greater decision and rapidity among non-professional persons engaged in commercial and public life than among medical men. It is not a technical question, but one of evidence, on which a person capable of observation is as competent to judge as any physician. Such a person, indeed, may have the advantage of having nothing to unlearn. The Spanish Cortes, in 1822, by a considerable majority, in direct opposition to the unanimous opinion of all the physicians who were members of their own body, being nine in number, as well as to the general belief of the physicians of Spain, rejected the project of a code of sanitary laws, founded on contagion, which had been prepared by three successive Committees or Commissions of Public Health. It is also observable that the committees of the House of Commons in our own country have generally indicated a more advanced state of opinion on this subject than the majority of the physicians whom they have had under examination."—p. 20.

Ha! ha! doctissimi doctores, take that!

Still the doctors are not so much to be blamed. They are gradually progressing. The Irish Board of Health deserves infinite credit for abandoning many of their old prejudices about contagion, at the word of command. And, after all, the committees of the House of Commons, the Spanish Cortes, and the "non-professional persons engaged in commercial and public life," have only hitherto been *advancing* in opinion; they had not arrived at perfection. It remained for the Central Board of Health to discover the philosophers' stone. The sages of Gwydyr House have found out the secret. Falstaff had an infallible instinct to perceive the heir apparent; but the doctissimi of Whitehall have a more subtle afflatus, a more profound sense, whereby to discern and fulfil the desires of the cotton lords of England. Lie down in the dust, ye ignoble vulgus, while we expound unto you the latest revelations which have been conceded by the sacred college of Gwydyr.

Well then, listen! Contagion is not infection. What in-

fection is it is not convenient at present to inform you; but remember that emanations are different from miasms; the latter can remain permanently suspended in the air, and keep travelling all the time, while the former diffuse and dilute themselves. Electricity and heat are very remarkable physical agents; what they do is not exactly known. But there can be no doubt with respect to epidemic atmospheres, though what they are we cannot tell; and, lastly, there is much virtue in the phrase, "peculiar morbific force." The Board of Health considers that the above is quite sufficient information for the present; and if by its aid you do not understand all about contagion or infection, it is not the fault of the Central Board of Health, nor of us.

Seriously, it is a matter of melancholy moment to see the legitimate march of medical investigation interfered with and retarded by the jostling of commercial and political interests. It has been considered by statesmen, to be desirable to remit or relax the restrictions which quarantine imposes on the intercourse of nations; and because it was conceived that a continued belief in the contagiousness of certain diseases might prohibit or retard this change, a systematic perversion of facts, with one-sided special pleading, has been pursued, without the slightest regard to truth or consistency, for the purpose of making the public think there is no such thing as contagion at all. We know not if the policy of statesmanship must be, from its nature, essentially Machiavelian in all circumstances. We are not sufficient adepts in the act of ruling free nations to be able to tell, whether it is always necessary that they should be allured to their interests by fictitious pleas, just as children are enticed to take the unpalatable although remedial draught, by sweetening with honey the edge of the cup. But this we do know, that all modern politics appear to be deeply imbued with a deceiving spirit; and, however intrinsically reasonable and excellent a proposed reform may be, its popularity is always sought for through the instrumentality of a clap-trap. From the extinction of Old Sarum to the latest sanitary improvement, we find similar agencies at work; and the big loaf and the abundant harvest are promised as the results of a change with which the promisers well know they have not the slightest relation.

This may be, for ought we know, a necessary attendant on the crooked workings of political artifice; but we, who are not diplomatists, but physicians, must regret to find subjects of the highest medical importance finding their way into this exaggerated and perverted atmosphere. The question of contagion is of this nature; it has been taken from its legitimate position;

it is no longer left to the observation of the physician at the bed-side, or to his reflection in the closet; but is bandied from blue-book to blue-book, and drawn through all the tortuous intricacies of official intrigue. As guardians of the interests of medical science, it is our duty to shield it from such injurious contamination; and therefore we shall not shrink from exposing the trickery that has been employed in this matter, to prevent or veil the truth.

We can bring forward no better example of the objectionable course pursued by the authorities in connexion with contagion, than by relating their conduct with respect to the steam-ship Eclair, and the island of Boa Vista. Circumstances have hitherto prevented us from reviewing the documents in our possession on these subjects; among these was the demise of our lamented contributor, Dr. Curran, to whom they had been submitted for examination. From unfinished papers which he left after him, we are enabled to present our readers with the following distinct and lucid history of the Eclair and Boa Vista catastrophe.

The crew of the Eclair was first attacked with fever in June, 1845, when stationed at the mouth of the Sheabar river. The disease was, however, soon got under, but broke out again at Sierra Leone, very shortly after. Whilst at Sierra Leone the crew were employed in cleaning out the Albert, which had been engaged in the Niger expedition. They were occasionally allowed to go on shore, where they were guilty of great irregularities, and several deserted. In consequence the Eclair, after remaining at Sierra Leone eighteen days, stood northwards, and anchoring at a great distance from the shore, the crew were again employed in cleaning out the Albert, which they had towed along with them, and preparing her for the service of the government at Gambia. On the 10th of August both vessels arrived in the Gambia, where the Albert was delivered up. Hitherto no disease, except the ordinary coast fever, had shown itself on board either vessel, and the Eclair sailed for the Cape de Verde Isles on the 15th of the same month, without the slightest ground for anticipating what afterwards occurred. The first case of yellow fever showed itself after she had been four days at sea, and on her arrival at Porto Sal Rey, the chief town of Boa Vista, August 21st, a passenger and four of her crew had died, and fifteen more were then ill. We are not in possession of any means of judging of the exact nature of the disease that raged on board, except that delirium, black vomit, and hemorrhages, were not met with on

the coast, but characterized most of the cases which occurred at sea.

Let us now, before going farther, take a rapid glance at some of the most prominent sanitary features of the island touched at by the Eclair. Boa Vista, the most eastern of the Cape de Verde isles, is a limestone rock lying on basalt, about sixteen miles across each way, but of most irregular formation, being deeply indented with bays on every side. The surface of Boa Vista is in general very low, but quite as irregular as its form. Hills, capped with basalt, and rising to an elevation of above 1000 feet appear in different parts, generally running from south-east to north-west. In consequence of this disposition, the cooling influence of the trade-winds which blow constantly from the north-east, is not felt at Porto Sal Rey the principal town, or the villages along the southern and western coast; whilst during the dry season whirlwinds of sand, forming mounds of forty or fifty feet high, are continually changing the appearance of the coast at the opposite side of the island. Viewed from a hill, Boa Vista appears a mere arid desert, without any trace of vegetation save an occasional cocoa-nut tree, or a small patch of corn struggling to maintain a precarious existence in the deep ravines cut out by the torrents which descend from the mountains during the midsummer rains. Notwithstanding, there are some large herds of bullocks kept by the inhabitants, and goats are tolerably numerous. How these animals are supported during the dry season always appears a puzzle to strangers, but the vegetation which springs up after the rains is most exuberant, and it is from this circumstance that the islands derive their name. The inhabitants, between 3000 and 4000 in number, are of all degrees of negro intermixture, and obtain a livelihood by making salt, loading vessels, cultivating a little corn and beans, or occasionally cotton, by fishing, or by tending their goats among the watercourses in the hills. They are hardy, active, and abstemious. "A little fish, some roasted Guinea corn, or a few beans, furnish the ordinary meal."

Eighty-six Europeans were resident on Boa Vista at the period of the Eclair's arrival there. Porto Sal Rey, the chief town, is situated at the northern end of an extensive bay on the western side of the island. The soil, of volcanic origin, with masses of basalt appearing through it, is but little raised above the sea, by which it is often inundated. The houses of the merchants and principal persons are ranged close along the beach, and some of those occupied by the Portuguese are roomy

and well-built. The upper part of the town is inhabited by the poor, many of them slaves, and is formed of filthy hovels crowded together in the most irregular and injudicious manner. The streets are extremely narrow, and as neglected as possible, it being a common practice to dig deep holes in the very centre of them, to seek for stones for building, and afterwards to leave the cavities thus formed to be converted into receptacles for every kind of filth. Behind the town, from which it is distant about a mile, a basaltic rock, called Reshee Hill, rises to the height of 900 feet. This hill lies to the north-east of the town, which is thus completely shut out from the salutary influence of the trade-winds. Between Reshee Hill and the town, the ground is perfectly level, and during the rainy season and for some weeks after it is mostly covered with water. In the centre are about 300 ponds for making salt by solar evaporation, the only manufacture carried on in Boa Vista. All the Europeans on the island reside in Porto Sal Rey. The number of the other inhabitants according to Dr. M'William, was 915. Rabil, or the New Town, distant from Porto Sal Rey about four miles, is situated on the *leeward* side of a ravine, which during the rainy season "forms a magnificent sheet of water nearly a thousand yards broad," whilst during the rest of the year it is a partially cultivated marsh, having scattered through it "large, green, fetid pools, with all kinds of decomposing matter, the effluvia from which," even after the lapse of nine months, "was most offensive." The inhabitants, amounting altogether to 1043, are extremely poor, living chiefly by being employed as labourers on board the vessels that touch at the island. The houses are mere hovels, generally dirty, and crowded together without any order. The most wretched part of Rabil is called Cabeckada. This part of the town, in which there are a few two-storied houses, occasionally resorted to as country residences by the Portugese, is named Boaventura. *Estacia de Baixo*, a small village with a population of 256, is situated on the opposite or windward site of the same ravine which it overhangs. The houses, small, but not crowded together, are built on a bare rock elevated more than 100 feet above the sea, and well exposed to the trade-winds. *Moradiuha*, also on the windward side of the ravine, but at the base of the hill on which Estacia de Baixo is built, has a population of 101. *Estacia* six miles south-west of Rabil, lies at the base of a hill which shelters it from the trade-wind. The houses are small and irregular, and the population 328. *João Gallego*, *Cabeça dos Tharafes*, and *Fundo das Figuēras*, all lie along the eastern coast, and contain the same class of popu-

lation and accommodations. The first, however, with 277 inhabitants, is situated in the centre of a large plain, which though flanked by mountains, is pretty well exposed in front to the trade-wind. The second village stands on a low sandbank half a mile distant, and has a population of 409 persons. *Fundo das Figuēras* is built on a slight elevation of sandstone, and has 529 inhabitants. All these villages have a range of high hills behind them, or to leeward, at the distance of a few miles, and between them and the sea, distant two or three miles, there are extensive ponds for making salt by evaporation, which, though not very close at hand, lie in the direct line of the prevailing wind, and must considerably impair their natural salubrity. *Espinguera*, and *Agua dos Caballos*, places of refuge from fever, are both situated on mountains close to the sea, and fully exposed to the refreshing breeze. If the reader will now bear in mind the above description of Boa Vista, he will find that it will serve to explain many circumstances in the history of the epidemic to be afterwards alluded to.

We left the Eclair at anchor in the bay called the English road, in which Porto Sal Rey is situated. Mr. Kenny, an English surgeon, being the only medical man then at Boa Vista, by the request of the Governor-General visited the sick, and having given a certificate that the disease was but the common epidemic fever of the coast of Africa, the crew were at once allowed to have the freest communication with the town, and a large quantity of foul linen was sent ashore the same day. This linen lay in the British Consul's stores that night, and the next day was distributed amongst seventeen of the washerwomen of the town, to be washed. Not one of the persons who had to do with this infected linen, soiled with the blood and excrement of the dead and dying, and brought from a vessel in which a very fatal fever had been raging for months, had the slightest illness *until long after disease had become general in the town*,—a very remarkable fact, but one perfectly in accordance with what we know as to the sale of plague-spotted garments in the bazaars of Turkey, and many other equally cogent proofs of the correctness of the recent academic conclusion as to the incapability of merchandize to harbour the miasmata of plague.

On the 25th, Captain Estcourt went to reside at the house of Mr. Macauley, Her Majesty's Commissioner Judge of the mixed Commission Court of Boa Vista, giving up his own cabin for the accommodation of the sick. Notwithstanding these arrangements, the fever cases on board continued to increase, and it was at length deemed advisable to land all the sick. As soon as this intention was made known to the

Governor-General, who seems throughout to have acted in the kindest and most condescending manner, he placed at Captain Estcourt's disposal, for the use of the sick, the fort Duke of Braganza, situated on an inlet at the entrance of the harbour. This fortress, from the accounts given of it, by Dr. M'William, by the Portuguese surgeon and by others, whose evidence is detailed in the report, seems to have been, in all respects, the worst suited that could possibly be imagined for conversion into an hospital. It is to be remembered that the Eclair arrived at Boa Vista at the commencement of the rainy season, during which the atmosphere is constantly loaded with moisture, whilst the vertical rays of a tropical sun heat the air to the temperature of a furnace. The fort to which the sick were removed was situated on the southern extremity of a dark basaltic rock sloping towards the sun, and completely sheltered by the high lands of Boa Vista from any cooling influence which might be expected to arise from the north-east trade-wind, which blows during the greater part of the year. The sick were lodged in some dilapidated buildings, surrounding a central court-yard, ninety-three feet long by fifty wide, and which was closely shut in by a very high wall. The hospital rooms formed two stories, one above the other. The largest was *sixteen feet square, and nine high, and in it were lodged twelve patients.* The other three rooms were none of them more than half as large, and were, even in the cool season, when visited by Dr. M'William, "close, hot, and miserably ventilated." What must they have been when the Portuguese surgeon complained of them as "extremely crowded" with patients, betwixt whom he could hardly pass, and that too at the very hottest period of a tropical summer! Sir William Pym may well speak of this fort as "a sort of oven," and the only wonder is, that any of the Europeans who occupied it should have been removed alive. It does not appear how the healthy part of the crew was accommodated, except that they lived in some of the dilapidated sheds in the court-yard. A military guard of three soldiers occupied the hospital along with the sick; they were almost always in the room with them, and at night slept in the piazza in front of the principal apartment. The healthy officers and sailors mingled freely both with the inhabitants and with their sick comrades, and some of them slept occasionally in the tower of Porto Sal Rey. The first, a native guard, was on duty in the fort four days. One of them, the day after the sick were brought in, complained of headach, which, however, was relieved by bathing with vinegar, and he continued on duty some days longer. He was afterwards

affected with a kind of mild febrile attack, which lasted nearly a month. He was attended by his mother and relatives, and visited by his friends, none of whom seem to have thereby received any injury. His two comrades enjoyed perfect health, both during their residence in and after they left the fort. The second guard consisted of two negro natives and one European, who were on duty a week, and left quite well. They were relieved by four soldiers, two of whom were Europeans and the others negroes born on the island. They had been on duty eight days when the Eclair sailed, and they were all then in perfect health. The disease was mean time not merely unchecked by the landing of the crew, on the contrary there had been but five deaths altogether up to the arrival of the Eclair at Boa Vista, but now there were sometimes five deaths per day, and sixty fresh cases had been declared since the occupation of the Fort. Among the deaths was that of Mr. Hartman, the assistant surgeon, and among the new cases was Captain Estcourt, who, for three weeks, had been residing with Mr. Macauley, the Commissioner Judge, but yet had been unremitting in his attention to the sick. On the captain's removal to the fort a consultation was held with the medical officers of Her Majesty's ship Growler, which arrived at Boa Vista on the 6th of September, at which it was finally determined that the sick should be re-embarked, and the Eclair proceed at once to Madeira, and thence to England, in case no amelioration should meantime have declared itself. Accordingly, the Eclair, in company with the Growler, sailed from Boa Vista on the 13th of September, having on board as surgeon Mr. Maclure, and as assistant surgeon Mr. Coffey. Mr. Maclure, having got promotion was going home in the Growler, as a passenger, when, having perceived Mr. Maconchie almost worn out by constant attendance on the sick, he volunteered to take his place. Mr. Coffey, his assistant, had also voluntarily proffered his services when Mr. Hartman was taken ill, and had been actively engaged among the sick at the fort. The courage and devotion of these generous men, in thus hazarding their lives in such a "forlorn hope" is the more pure and noble as it is quite free from that element of *ferocity* which forms so large a part of the military character; the riches, titles, and orders, for which the soldier fights are, in the British service, far too rare an acknowledgment of the peaceful virtues of medical heroism and benevolence, to be regarded as having even influenced their conduct in the least degree(*a*).

(*a*) These sentiments are singularly affecting, as coming from one who was so soon to stamp the seal of his own fate on their sincerity. It will be

We must now go back to consider some other circumstances connected with the Eclair's visit. After the removal of the sick from that ill-fated vessel forty-one labourers from the shore were set to work, assisted by the crew, to give the vessel a thorough cleaning, and afterwards to get on board various stores for the voyage. These men were employed both on deck and in the hold, for about a week, and each at night returned to his own village to sleep. They were also on board the Eclair when the sick were re-embarked previous to sailing for Madeira, yet not one of them was attacked with the prevailing disease until some weeks after, when the fever had broken out at several places on the island. Two, however, were affected with slight ordinary fever a few days after the departure of the steamer. Their cases were as follows:—Luis Fortes Pathi lived in Cahecada, the very filthiest and most unhealthy locality in the whole island, and had been engaged a good deal in the hold of the Eclair, having spent an entire day on the lower deck pumping out bilge-water. The day after the steamer sailed he went to Moradiuha, to celebrate the "Feast of the Exaltation of the Holy Cross" a religious ceremony, of which dancing and gesticulation form by far the most important part. On the fourth day of the feast, whilst the dance was going on, Pathi became sick, and had headach, with pain in the back, which soon compelled him to take to bed. After lying *eight days* at Moradiuha he was removed to his own house at Rabil, where he was three weeks longer before he completely recovered. No one at Moradiuha who had lived in the house with him suffered any injury; the disease did not appear there until three months after, and even then it proved fatal only in two cases. Four days after Pathi was brought back to Rabil, another labourer, Luis Santos Nazario, who had been employed in precisely the same way, but who inhabited the lower and better part of the same town, had also a febrile attack, which, however, lasted only three days. In Pathi's neighbourhood the fever spread at once to others, and the mortality was one in 13·5; but in Nazario's it did not affect any one else until two months later, when persons who had got it in other places were removed thither, and the mortality was then but one in 21·7. We shall pass unnoticed the men employed in the launches, and various other persons who either boarded the Eclair or were in direct communication with her crew, though they escaped the disease until it became

in the recollection of our readers that Dr. Curran lost his life from fever contracted in the exercise of most devoted professional heroism.—Ed.

general, in order to come at once to the history of the three soldiers who were on duty in the hospital during the last week of the Eclair's stay. The day the sick were removed these men occupied the hospital room, which was swept out by one of them. Dr. M'William, however, from the condition in which he found the apartment in question, doubts whether any attempt had ever been made either to clean or purify it. The following day the two Portuguese were taken ill, and both died within four days, one in the room occupied by the Eclair's people, and the other under the piazza in front of it. Before their death two other men had been sent from the barracks to assist the survivors, who all remained in the fort four or five days longer, sleeping in one of the small rooms off that used as an hospital. The dead bodies, which smelt most offensively, were removed and buried in the sand by soldiers sent from the garrison, aided by those in the fort. A man twice engaged on this service had formed one of the previous guard, and he afterwards came from the town, with two other soldiers, to take the place of the survivors. The relieved soldiers, as one of them had been complaining for some days, did not go at once to the barrack, but remained for a week in a small house in the worst part of the town, close to the marsh, where they were visited by all their friends and acquaintance, amongst whom fever spread rapidly, and was very fatal. They then returned to the barracks, and the one who was still complaining got violent fever four days afterwards, whilst residing in the house of a store-keeper.

The party at the fort slept in the room so long occupied as an hospital, and from which two dead bodies, in a very advanced state of decomposition, had been but just removed. On the second day, the man who had been there previously along with the Eclair's people, and who had afterwards been twice employed in burying the dead, was attacked with fever, and was at once removed to the barracks, where he got well in three days. It is necessary to inform the reader that the barracks stand in the best part of the town, close to the sea-shore. We have seen that it was, from the very earliest period of the epidemic, exposed to contagion in the very highest possible degree, soldiers being carried there from the hospital whilst actually labouring under fever ; yet the disease did not spread, and a single death did not occur in the barracks until the 6th of November, long after it had been raging in the town. The lower part of Porto Sal Rey was, however, exposed to danger from other sources. It contained the grog-shop of Da Silva Georgio, in which the petty officers and seamen of the Eclair

spent most of their time when on leave, and in which some of them slept. Georgio himself had slight fever after the arrival of British sailors at his house, but not one of the crowds of persons frequenting the place had it after him. Mr. Macauley's residence was also there; but though the Captain of the Eclair was taken ill in it of the disease of which he died, the entire family and servants completely escaped. Lastly, the house in which the officers of the Eclair resided from the very first was in the same quarter; but, although these officers and their servants were in constant communication with both the steam-vessel and fort, including the sick, and though several persons had been conveyed thence to hospital, where they died, it does not appear to have been even suspected of giving rise to any disease; and certain it is that the lower town continued almost free from any disease many weeks after the fever had become most deadly in the miserable district adjoining the marsh. Now when we consider, in addition, that the first cases of the disease *imported* into Boaventura, Estacia de Baixo, Moradiuha, and Fundo das Figueras, the sanitary condition of which is very high, were in general quickly cured, and did not infect others; and when we compare the mortality in each place affected with its position and circumstances, it is imposible not to see that the experience of Boa Vista, if it does not establish, certainly does not contradict the conclusion arrived at by the French Academic Commission in reference to the transmission of the plague.

We are glad to have had the opportunity of giving the history of the fever at Boa Vista, written by one who certainly was not an advocate for contagion. Dr. Curran's sense of candour and fairness would have prevented his giving a false colouring under any circumstances; but what gives peculiar value to the foregoing account is, that his views were rather opposed to the existence of contagion, even in typhus fever. However, what does the foregoing description show, but that in every instance the persons at Boa Vista first attacked were those who had intimate communication with the crew of the Eclair? Dr. M'William having, with extraordinary diligence and discernment, collected all the available evidence to be obtained, was led to the following conclusions:

"That the fever on board the Eclair was primarily the remittent of the African coast, which is not a contagious disorder, but that the disease acquired contagious qualities in virtue of a series of causes. Second, that although there exists on the island of Boa Vista a physical cause capable of producing remittent fever, yet it does not appear that that cause was in action when fever broke out in Sep-

tember, 1845, and that the island was quite healthy when the Eclair arrived there. Third, that the disease of which the Portuguese soldiers died at the fort (Duke of Braganza) on the small island, was that which afterwards ravaged Boa Vista, and the same as that which prevailed among the crew of the Eclair. Fourth, that the fever was propagated throughout the island almost exclusively by direct intercourse with the sick, there being only two cases in which there appears any probability of persons having been infected in any other way. Fifth, that although those who had passed through the fever were much less liable to the disease than those who had not, yet it would appear that a person having had one attack possesses no absolute protection against a second attack. Sixth, that, connecting the whole of the circumstances attending the arrival and stay of the Eclair at Boa Vista, with those under which the disease appeared on the small island, and afterwards on Boa Vista itself, leaves no doubt of its having been introduced by the Eclair. Seventh, that in all probability the mortality from fever on the island was much increased by the want of proper nourishment for the people, as well as by the total absence of medical assistance for some months. Eighth, that the disease had in no case spread to any of the other islands of the Cape de Verd archipelago."

We have carefully examined the evidence collected by Dr M'William, and we now unhesitatingly assert that the above conclusions flow as legitimately from the premises, as moral reasoning will admit of. But these were not the kind of conclusions which the Government required, and the Director-General of the navy medical department had a much clearer vision as to the kind of thing wanted, than to permit these embarrassing deductions to pass unquestioned. We remember a clown in one of Farquhar's plays, who states that, if he was made a justice of the peace, he would be a very honest man himself, but keep a great rogue for his clerk. Sir William Burnett appears to be of this clown's opinion; he would like to act honestly and uprightly himself; thus when, in 1824, he was required to report on the imputed introduction of yellow fever into the island of Ascension, by His Majesty's ship "Bann," he came to conclusions very analogous to those of Dr. M'William. But circumstances are now changed; the mercantile community had not then set its heart on the abolition of quarantine; it was not then thought that the doctrine of contagion was an impediment in the path of free trade; a reformed Parliament had not as yet transferred the reins of power from the landholding borough-mongers to the millionaires of the manufacturing interest. But now a new order of things has arisen, and the politic Director-General, altogether incapable, we are convinced, of anything personally dishonour-

able, is nevertheless disconcerted at the simplicity and straightforwardness of his employée; and, finding it necessary to discountenance his conclusions, sends out Dr. King, a decided non-contagionist, to endeavour to palliate the mistake in tactics committed by his predecessor.

Poor Dr. M'William!—How erroneously you imagined that the qualities required in a medical reporter were, honesty, ability, industry, and professional knowledge. Why you have committed mistakes of the greatest magnitude on every side! You have mortally offended the Superintendant-General of Quarantine, for you express the opinion that remittent fever may change into a contagious disease; and, worse still, you state that an individual may have the latter more than once. And, on the other hand, you thought, forsooth, that you were at liberty to change your mind, and, from being a confirmed non-contagionist, to become an advocate for contagion. We can bear witness from your writings that you are an honest man and a sound physician, but not the less has your education been very much neglected. We want some Sir Pertinax Mac Sycophant to teach surgeons how to "boo." Just imagine the absolute innocence of the man who, in sending a report in every respect directly counter to the wishes of those in authority, could pen the following:

"In submitting this Report to your inspection, I would, with great deference, trust that it will, in some degree, meet with your approbation; and hope that, in consideration of my services in the Niger, and in other parts of the world, added to my recent employment in the Cape de Verds, you will be pleased to recommend me to my Lords Commissioners of the Admiralty as deserving of promotion."

On reading the above, we confess we cannot tell whether we were most amused or grieved at such an exhibition of artless unconsciousness and *naiveté*.

To proceed with our narrative. Dr. King next appears upon the stage with his report. We are willing to believe Dr. King has acted conscientiously, but he is evidently a person with whom it is impossible to reason on the subject. He has made up his mind upon the non-existence of contagion, and no fact or argument can subsequently shake his opinions. The man who insists on a strict syllogism, or to be presented with an algebraic formula, in matters of medicine, ethics, or religion, may be considered as a hopeless subject. The strict disciple of definitions and demonstrations can never deal with the problems of probabilities. Where would be the use in asking Dr. King the chances for and against Boa Vista and the Eclair

ship being alone devastated by yellow fever, when the whole line of coast, the other islands, and all the other ships escaped, provided there was no connexion of cause and effect between disease in the ship and disease in the island? Equally vain would it be to inquire the probabilities, under the same conditions, of the disease appearing, for the first time within the memory of man, at Boa Vista, subsequent to the visit of the Eclair. If we ask what was the balance of chances that among the 4395 residents, inhabitants of Boa Vista, the few first attacked with a disease totally new to the island should be among those who had frequent communication with persons suffering under a similar disease in the fort Duke of Braganza, provided that that communication had nothing to say to the spread of the disease. Or if we asked, if the new disease proceeded from endemic causes, what was the balance of probabilities that the disease should chiefly prevail and be most fatal in those parts of the island least subject to the ordinary endemic remittent, and be mildest in those places where remittent is at other times generated?—Dr. King's answer to all these and similar questions would be the eternal negatives, "there is no absolute proof that the disease was ever communicated; and many persons exposed to contact with the sick escaped being attacked at the time."

We have, however, no quarrel with Dr. King; let every man, according to his lights, be convinced in his own mind. But what we object to is the system that has been pursued, of tampering with medical testimony, and of fishing for evidence. We think we have shown, in the preceding part of this article, that the question of contagion has nothing whatever to do with the continuance or discontinuance of quarantine. On the contrary, sure we are that the imperfect isolation of the sick at the fort Duke of Braganza, and the total neglect of proper ventilation and cleanliness, were the causes of the malignity and spread of the disease; and that if the sick had been distributed in airy houses, at a distance from each other, the consequences would have been in every instance similar to the particular case of Captain Estcourt, who died at the Consul's house, and was buried without any one getting the disease from him. But why should we be prevented from having recourse to judicious and enlightened sanitary measures, if we were even convinced that the disease was contagious? We suspect there is a miserable pusillanimity at the bottom of all this twaddle about contagion. The Board of Health are delighted to inform the public that cholera is not contagious. They next dilute down the oriental plague into

a variety of typhoid fever ; and then they draw distinctions between contagion and infection; and at last laud themselves in the belief that infection is nothing but bad ventilation and the poisonous products of putrefaction; and they substitute for facts and reasoning a metaphor about decomposing locusts in Ethiopia. They sit down to settle the whole question of contagion with the same complacency that a junior freshman works out, to his own satisfaction, the quadrature of the circle, or the doctrine of perpetual motion; and just as he smiles at the antiquated prejudices of the senior board, so do they (the Board of Health) most smirkly sneer at the mistakes and erroneous doctrines of the most learned and reflecting physicians. We will not say of them, as Grattan did of Flood, that they have a metaphor on their tongue and a bribe in their pocket; but we do say, that the course taken by the officials of modern times, with respect to questions of public health, has been calculated to corrupt the purity of medical testimony, and to engender the grossest charlatanism. Our readers will recollect that we had occasion, some time since, to expose the unblushing quackery which heralded "Ledoyen's disinfecting fluid." It will now be seen what it was gave origin and countenance to that gross humbug. The same causes have since elicited a host of competitors, and Sir William Burnett himself, notwithstanding our warning, has not thought it beneath his dignity to enter into this race. We shall say no more on this subject for the present, but we promise the various boards and heads of departments that we will vigilantly watch their proceedings, and never shrink from denouncing a policy which we believe to be most detrimental to the interests of medical science, because it is pursued in "high places."

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1. *Pathological and Practical Observations on Strictures, and some other Diseases of the Urinary Organs.* By Francis Rynd, Esq., A. M., M. R. I. A., &c. London, Longman and Co. 1849. 8vo. pp. 195.

2. *De l'Urétrotomie ou de quelques Procédés peu usités de traiter les Retrecissements de l'Uretre.* Par le Docteur Civiale. Avec une planche. A Paris, Bailliere. 1849. pp. 119.

It has been often a matter of astonishment to us, that notwithstanding the many opportunities afforded in the public hospitals of this city for the study of diseases of the urinary apparatus, so little should have appeared upon this most important class

of diseases, either in the form of lectures or as monographs, from the surgeons attached to these valuable institutions. It is true that the study of these affections has been cultivated in our city with no ordinary assiduity and care, and that, so far as their practice is concerned, our surgeons are in no respect behind the best and most successful practitioners in other countries. Still we must regret that the records of Irish surgery afford so few memorials of investigation in this particular department. There are none who have had the pleasure of attending the highly practical and instructive lectures delivered by the late Mr. Wilmot of this city, upon diseases of the urinary organs, but must regret that he has not given to the world a full and comprehensive detail of his experience upon this extensive subject; and this is the more to be regretted since few surgeons have obtained a more highly deserved reputation for the treatment of this most distressing class of maladies, than the late Professor of Surgery to the Royal College of Surgeons.

In the fifth and seventh volumes of our New Series will be found essays by that able surgeon upon "Strictures of the Urethra" and "Diseases of the Prostate Gland." These papers are throughout replete with all that sound practical instruction which so strongly characterised the professional discourses of Mr. Wilmot. It was his intention to have continued them.

Credit is certainly due to the author of the work at present under our consideration, for the industry he has exhibited in putting together in so useful a form the results of his experience. The work commences with some anatomical observations upon the urethra, and its liability to disease; the old point, as to whether gonorrhœa be the usual cause of stricture or not, next comes under consideration; and upon this subject the author expresses the opinion that "*probably it is not a cause of stricture.*" He observes, that

"The membraneous portion of the urethra forms a curve under the firm and resisting ligament of the pubis, which curve will have a tendency to become an angle, according as the bladder becomes distended, and rises upwards in front of the abdomen; and the angle so formed will, by flattening and compressing the canal in its transverse direction, render the passage of the urine proportionably difficult through it. This over-distension of the bladder may occur in perfect health, even to the extent of producing retention of urine, and perhaps some of the cases attributed to loss of tone in the muscular fibres of the bladder might be as truly explained thus: but in the next place let it be supposed that from any cause Wilson's muscles should be seized with spasm in any of these cases already affected by the over-distension, and it must so shut up and close the urethra at that angle, as to occasion absolute retention. The patient,

then, in his efforts to relieve himself, will direct all the force of an excited bladder, aided by that of the abdominal muscles, on this very spot, already, probably, in a state of irritation, and disposed to become inflamed and thickened, and resisting; and let it be farther imagined that this should happen again and again, at every repetition the mischief will be increased until a permanent alteration of structure is finally induced."—pp. 11, 12.

In addition to over-distention of the bladder, and the increased curve in the urethra as its consequence, together with a spasm of Wilson's muscles, giving rise to stricture of the urethra, the author enumerates other causes of this disease; and amongst the rest he asserts, that

"Local weakness is a direct and powerful agent in the formation of a stricture; weakness from habitual intemperance, from long residence in a warm and enervating climate, from stimulating, unwholesome food, and, above and beyond all, from a forced and almost unnatural indulgence in sexual enjoyments. The influence of this latter exciting cause will scarcely be denied by men of practical experience, and possibly it may be regarded as one of the cases in which the transgressions of the parent are visited on the offspring; for there are strong grounds for entertaining the opinion that an hereditary tendency or disposition to the disease may be transmitted. It is true this latter supposition has not been prominently brought forward by the writers on the subject, and may, therefore, appear visionary, but, in the present instance, it has been suggested by observation; and if it be true that Hunter saw a case of stricture, complicated with fistula *in perinæ*, in a boy of only four years old, it is difficult to imagine how such an occurrence could be otherwise explained."—pp. 12, 13.

Mr. Hunter entertained strong doubts whether stricture ever proceeded from gonorrhœa, and indeed he instances this very case of the child of four years old, amongst others, as a confirmation of his peculiar views upon the subject. Our author has evidently revived this peculiar case for the same object, and introduces it amongst his arguments for maintaining the position with which he started, namely, that gonorrhœa, "*probably, is not a cause of stricture.*" In the absence of direct proof we are obliged to dissent from the speculations of our author; and we cannot help thinking, that if he admit the fact of a child four years old being affected with stricture, he might also admit the possibility of this child contracting gonorrhœal inflammation of the urethra from accidental contact with a diseased person—such cases are on record—and thus establish, in an ordinary way, the disease in question. We readily admit that there are other causes of strictures of the

urethra besides gonorrhœa. Every one knows there is such a thing as spasm of the muscular parietes of the membraneous portion of the canal. Gout may give rise to inflammation of the urethra, which may terminate in stricture; injuries of the perinæum, as from falls, &c., may produce like consequences; and we are all aware that the unskilful use of the catheter or bougie, or the administration of injections for the cure of gonorrhœa, may give rise to this disease. But, whilst we admit these facts, we still believe that gonorrhœa is the principal cause of stricture of the urethra. Sir E. Home maintained the same opinion. Sir B. Brodie believed that "a severe or long-continued attack of gonorrhœa" may be considered as a cause. Sir A. Cooper affirms his belief that "in ninety-nine cases out of every hundred it was the result of gonorrhœa," and again "of neglected gonorrhœa." Mr. Wilmot, in speaking of strictures of the urethra, asserts that "gonorrhœa is the most fertile source of this disease." Even Mr. Wilson, who appears to have entertained to a considerable extent the views of Hunter, admits that, "when a stricture is disposed to form, any inflammation happening in the urethra generally tends to increase the disposition"(*a*). And what inflammation, we would ask is, unfortunately, so common as that specific form of which we speak?

We would wish to give our author every credit for the kindness and charity of his nature, that charity which "thinketh no evil;" but we very much fear, in his enumeration of the causes of strictures, he attaches too much importance to the physical curvatures of his patient's urethra, and too little to his moral tortuosities; we wish we could think otherwise, but we feel reluctantly compelled to subscribe to the opinion of that truly eminent and practical observer of nature, the late Sir A. Cooper, and cannot avoid thinking, that by ninety-nine out of every hundred of our author's patients the compliment which he has paid to their morality has been but ill deserved. The author describes three principal forms of organic stricture:

"1. The simple circular, or, according to some practitioners, the packthread stricture (so called because it creates an appearance as if the portion of the urethra in which it is situated had been partially closed by a ligature of fine thread or twine), is thin, and apparently formed by a single duplicature of the mucous membrane; but this appearance is deceptive, for, on closer examination, it is found harder and firmer than it possibly could be consistently with the idea of so simple a mode of formation. Occasionally this stric-

(*a*) Wilson's Lectures on the Urinary Organs, p. 370.

ture is only partial, and occupies but a portion of the circumference of the canal, in which case but a minor degree of inconvenience ought to be experienced. The usual position of the packthread stricture is at the membraneous portion of the urethra.

"2. The banded or bridle stricture is when one or more firm and resisting cords or fibrils pass across the canal, leaving a passage for the urine at either side and between them. This must be of exceedingly unfrequent occurrence, for it is rare to meet a specimen amongst our pathological collections, and will probably be equally difficult of recognition during life. Its formation can only be explained by supposing that the urethra had been wounded or ulcerated, and an adhesion attempted between its opposite sides, which, yielding to the force of the stream of urine, became at length extended into a fibrilla or band. Accordingly, not originating in any pathological peculiarity of the urethra itself, it observes no particular locality, and may be found in any part of it. The few that have come under my observation were either situated at the bulb, or within an inch or two of the external orifice.

"3. The irregular stricture is where the wall of the urethra is converted into a hard substance, almost possessing the firmness of cartilage or ligament, for perhaps an inch or two of its longitudinal extent; the diameter of the canal being thus diminished, and its course turned in different directions. The quantity of surrounding hardness is not the same in every part, and consequently the canal is unequally diminished, and hence becomes so devious and winding as to render the guidance of an instrument through it very difficult, quite independent of the obstruction offered by the diminution of its size."

This form of stricture, or, as the author calls it, "an aggregation of strictures," "usually implicates the bulb in some one part or other of its extent," and may be attributed to "rough usage from instruments."—p. 16, &c.

The following observations upon some of the important sequelæ of stricture, together with the results of inflammation in the perinæum, are highly practical, and therefore deserving of attention:—

"Everything that can by possibility create a lesion of the urethra to a sufficient depth and extent to permit the escape of the urine from it, will probably give rise to abscess, and subsequently to fistula; and as wounds and lacerations, and other injuries, are generally inflicted on its inferior surface, where it is most exposed, and as the direction of the urine from that is towards the perinæum, there it is that urinary abscesses and fistulæ principally prevail. But abscess may appear in the perinæum without having any necessary connexion with the urethra, and therefore it is important to establish a pathological distinction between the urinary abscess, properly so called, and abscess arising from any other cause,—a distinction the

more essential, because the symptoms of both are nearly alike, even to the abominable urinary smell of the matter when discharged. Thus inflammation and suppuration may occur, from a variety of circumstances, in the perinæum, as well as in any other locality; and the contents of collections thus formed in the vicinity of mucous canals generally take their characteristic fœtor from that of the material the adjacent canal is designed to transmit; therefore the appearance of an abscess *in perinæo*, unattended by any previous urinary distress, by no means implies any more than perhaps a sympathetic connexion with the urethra, although, if neglected, or improperly treated, it may give rise to fistula by bursting into that canal. Thus, then, there are two distinct forms of abscess *in perinæo;* one in which the lesion of the urethra precedes the formation of the matter, and is the cause of it; the other in which the abscess occurs first, and opens the urethra by bursting into it; both terminate in fistula. The former of these is again divisible into two classes: one symptomatic, being the consequence of stricture or other disease; the other traumatic, wherein the urethra has sustained some injury or wound. It has been already stated that the urethra occasionally becomes distended into a pouch or bag immediately behind a stricture, which sac not unfrequently ulcerates, and allows the escape of urine into the perinæum; yet why this unfortunate occurrence should only take place in some cases, and not in all, is not easily determined, for all seem circumstanced pretty nearly alike: in all this sac must experience the full force of the contracting bladder, and sustain the pressure of the arrested fluid; in all some portion of the urine will be retained, and if it be the cause of the irritation, all should suffer in the same way, the only difference being in degree or intensity; and in all is there the same opportunity for the reception and lodgment of sabulous deposits or other accumulations; yet inflammation of the sac, which is the preliminary step, does not occur, in all else must stricture inevitably be followed by fistula *in perinæo*. By whatever cause occasioned, however, this sac may inflame and ulcerate or slough, giving an opportunity for the urine to escape, which it does either suddenly or in a gush, diffusing itself extensively throughout the perinæum, and occasioning a fearful destruction of parts, or else slowly making its way by degress, to the surface. In the former case the urethra has not been protected by deposition of lymph around it; or such deposit, having been formed, has been broken through by the impetus of the stream of urine, which thus without impediment reaches the cellular tissue, and passes in every direction through it; in the latter there has been a deposition of lymph, into and through which it makes its way, and by which it is circumscribed, until, having reached the surface, generally by a circuitous route, it occasions the formation of a small painful abscess, which bursts, and the fistula *in perinæo* is established. This is the usual course of events, and fortunate it is so, for the subjects of old strictures are ill calculated to bear the distress and danger attendant on an extensively diffused abscess, whilst the

bursting of the small one rather gives relief than otherwise, by providing a passage for the urine."—pp. 22, &c.

The experienced surgeon is well aware of the fact that the stricture itself is not always the only circumstance in the case demanding his serious consideration; in its early development, it is true, proper attention to it alone, and judicious management on the part of the patient and practitioner, may save the former from an accumulated load of misery, which he must ultimately endure from indiscretion or neglect; but in how many instances is the disease suffered to make progress until such structural alterations have taken place in other portions of the urinary apparatus, as frequently to deprive the patient of all benefit which, under other circumstances, would have accrued from the removal of the stricture. From a long-continued and neglected stricture, the urethra, behind the obstruction, becomes dilated into a sac or urinary depôt; this frequently ulcerates or bursts, giving rise to the terrible consequences which have been so well and so graphically described by our author. The bladder itself undergoes the most remarkable and serious alterations; the ureters too, and even the kidneys themselves, become deeply implicated in these changes; and thus has the foundation been laid for a most hopeless and helpless state of things from the want of a due appreciation of the dangers which may ensue from a neglected obstruction in the urethra. These pathological alterations have been long ago ably pointed out by Dr. Baillie and by Boyer; the former dwells particularly upon the amazing degree of thickening which the bladder undergoes, whilst the latter compares the appearance of its interior to the rough and columnar condition of the inside of the heart.

We shall quote our author's observations upon this subject:

"As the stricture increases the closure of the canal, the bladder, finding as it were that its ordinary contractions are not sufficiently powerful to expel the urine with the wonted facility, is obliged to augment its exertions, and the obstruction being permanent, or perhaps daily becoming more difficult to be overcome, these exertions can never know remission; hence its muscular coat becomes hypertrophied, and its walls so thickened, that the internal surface is columnar, and bears some faint resemblance to the musculi pectinati of the heart. The cavity of the bladder is thus actually diminished in its capacity, and of course feels the stimulus of distension more frequently than in its ordinary and healthy condition, and the necessity for emptying it occurs just in the same proportion. But, besides the physical change in the size of the bladder, there is probably a more important effect wrought on the sensibility of its lining membrane, which renders it more irritable and less able to endure the presence

of the urine; the calls are thus rendered not only more frequent but more urgent, and the quantity discharged at a time is often surprisingly small. This urgency is experienced in a far more troublesome degree during the night than in the day; not because of its greater frequency, although persons usually drink more in the evening, but because the attention is more directed to it in consequence of the disturbance and loss of sleep it occasions. When this pathological condition of parts is fairly established, a patient's life may be said to be truly miserable, for the mind exercises a decided influence on urinary affections, and whenever any difficulty is interposed to the free discharge of the urine when and where the patient pleases, he is certain to experience the desire, and to suffer great distress from being unable to comply with it. It is worthy of remark, that this thickened, columnar condition of the bladder, although a frequent consequence of stricture, is not universally so; in some severe cases the viscus has been found unaltered, and in a few its capacity was rather increased, and its walls rendered more thin. It must be confessed that this latter occurrence is difficult of explanation. Another very important alteration in the state of the bladder, in connexion with difficulty of passing the urine from any cause of obstruction, and, of course, from stricture, has reference to its own blood-vessels, and some others in its immediate neighbourhood, for in such case the veins on the anterior and inferior surface, those situate about its neck, and the prostatic veins, become enlarged, knotted, and varicose, capable of being injured, of pouring out a vast quantity of blood, the flow of which cannot be easily restrained. This condition of the bladder seems scarcely to have attracted the attention its importance deserves, as furnishing an explanation of some phenomena not otherwise very intelligible; why, for instance, large and fearful discharges of blood occasionally pass through the catheter, even although no perceptible violence had been employed; why hemorrhage into the bladder occurs in old persons after the use of an instrument; and, above all, why the operation of cutting into the bladder from the perinæum is so extremely perilous in such patients."—p. 30, &c.

The selections we have now given from Mr. Rynd's book are intended as specimens of his style and matter, and more for the purpose of inducing others to peruse his volume, than with the view of affording anything like a general analysis of it. The author has exhibited considerable industry and care in the arrangement of his work, and the practical precepts with which it is replete will amply remunerate the reader for the time expended in its study. We again repeat it as our deliberate opinion, that these "Pathological and Practical Observations on Stricture" reflect great credit upon the author.

The memoir of Civiale is the production of a surgeon matured in experience, who has long enjoyed in the French

capital an extensive practice in the treatment of diseases of the urino-genital apparatus, and whose former writings have already made him well and favourably known to the surgical world. That the author is a laborious and careful investigator is proved by his present work; and that he is an honest and fair-minded man is proved by the spirit in which his book is written.

In the introductory remarks the author informs us that the discovery of lithotrity was the *point de depart* of a true regeneration in the pathology of the urinary organs; that until then our ideas were but vague; and that many organic lesions were undiscoverable until after death, owing to the imperfect means of exploring them that we before possessed. In his present work he calls attention to a variety of stricture which is of so rebellious a nature that it requires a varied series of treatment; premising that we are not to expect any new discovery, but merely the better application of means long since known to the profession. In undertaking this task he considers it to be the duty of every surgeon to examine whether such and such means, advanced as an improvement, be so in reality. And although this may be a disagreeable task, inasmuch as it may awaken the angry feelings of an inventor, it should not be shrunk from.

The author begs us to remember that in the first volume of his *Traité pratique des Maladies des Organs Genito-urinaries* (1837 et 1842), and still later in the *Bulletin de Thérapeutique* (1844), he has presented some observations upon urethrotomy, and also upon the several means, both ancient and modern, by which it has been proposed to force strictures of the urethra. If his observations were then but brief, the facts were not sufficiently numerous to constitute an authority, the more especially as the majority of surgeons seemed inclined to oppose the practice, and he then rested contented with enforcing the caution with which this method should be received. He fears, moreover, that the manner in which he called attention to his own experience gave rise to the belief that he was prejudiced; his writings, he tells us, will prove the contrary, as he acted with respect to urethrotomy in the same manner as he acted towards rapid and forced dilatation, and towards the use of caustic, publishing the results of his practice, whether successful or unsuccessful.

Regarding urethrotomy, having tried scarification as a means of cure in undilatable stricture of the straight part of the urethra, his experience was not favourable to the practice. In so expressing himself he acted nowise contrary to experimental science; for when experience taught that long and deep inci-

sions were of benefit not only in strictures of the meatus, but also in the straight and curved part of the urethra, he immediately avowed it; and at present, in giving his convictions to his professional brethren, he wished not to fetter their opinions, his only desire being to make them acquainted with the foundations upon which they were rested. In the present memoir he has told them what was favourable and what was dubious, and to the latter he wishes principally to call their attention.

The work is divided into two parts. In the first is given the history of the cutting from without inwards into the urethra, or the operation of dividing the urethra through the perinæum. Dr. Civiale seems not a little jealous that this mode of operating has been attributed by some modern continental writers, but more especially by the English, to John Hunter; this operation having been alluded to by Rhazes, and described by Avicenna as common in his time. He describes the different modes of performing it, and gives the opinions of various surgeons, both French and others, concerning the difficulties likely to be encountered, and concludes this part with several judicious remarks on the cases in which it may be advantageously practised. In the seventh Number of our present Series we have published a paper on urinary fistula, by Mr. Colles, in which he admirably points out the difficulties that may be encountered in urethrotomy from without inwards.

In the second part of the work is given a sketch of the history of urethrotomy, as performed from within outwards. The different instruments which have, from time to time, been employed, and their several modes of application, are discussed. And here we find the peculiarity of the author's treatment, which consists in dividing the stricture from behind forwards, this being accomplished by first having partially dilated the stricture, so as to allow an instrument consisting of a straight stem, whose point is larger and olive-shaped, to pass through it. On withdrawing the instrument, the cutting part which till then remained concealed, is made to protrude, and so the stricture is divided; the operator being enabled, by means of the mechanism of the instrument, to make the incision of any length or depth he may consider advisable.

The author's experience of this mode of operating leads him to the following conclusions:

First.—That urethrotomy from behind forwards, and from within outwards, is an improvement in surgery.

Second.—That beyond doubt it is preferable to all other means.

Third.—That in long, callous, and retractile strictures, occupying either the straight or curved part of the urethra, long and deep incisions, properly performed, permit of dilatation, and produce results not to be obtained by any other method.

Fourth.—That in following this mode of treating stricture, and observing the necessary precautions, the operation may be performed without danger, or without even exposing the patient to any serious accident.

Fifth.—That the division of the stricture from before backwards, and without any guide, is dangerous, and recourse should not be had to it unless in some rare cases, and only as a means of removing the first obstacles, so as to facilitate the employment of other methods.

In conclusion, he observes, that he does not wish to exalt urethrotomy into a general means of treating stricture of the urethra; as in so doing he would err in estimating its real value, lead others astray, and cause surgery to make a retrograde step, an evil which it is hoped may not occur when all other sciences are on the advance.

We cannot at present enter into a thorough analysis and critical examination of this memoir, which we can with confidence recommend as presenting a clear and simple statement of the actual state of knowledge on the subject.

Lectures on the Causes and Treatment of Ulcers of the Lower Extremity. By GEORGE CRITCHETT, Esq., F. R. C. S., &c. &c. 1849. 8vo. pp. 121.

IN our last Number we furnished our readers with a review of Mr. Chapman's work on ulcers of the lower extremity, in which the advantages obtained by water-dressing, together with proper support, were pointed out; and we then recorded our own experience on the subject, as being in favour of Mr. Chapman's mode of cure. Nothing can exemplify the importance of the treatment of ulcers of the lower extremity more than the number of works which have lately issued from the Press on the subject.

Mr. Critchett's lectures were delivered at the London Hospital during the summer of 1848, and are now brought out in the present form, dedicated to the pupils of that Institution. They are six in number. The first embraces the causes, classification, and general treatment of ulcers. In it the author proposes to divide all ulcers into simple or local, specific or

constitutional, subdividing the simple or local into acute or spreading, subacute, chronic, healthy, irritable, and varicose. The specific or constitutional come under the various heads of strumous, syphilitic, phagedenic, periosteal, menstrual, œdematous, and malignant.

"Each of these classes of ulcer has certain characters and symptoms by which it may be recognised, and requires for its successful treatment certain modifications of local and constitutional appliances; and as in medicine and surgery generally, so especially in the particular form of the disease we are now considering, your success in curing will not depend so much on the multiplicity of your remedies, as upon your power of recognising the exact form of the ulcer with which you have to deal, and the plan most suitable to that particular case."

In considering the principles on which the treatment of ulcers of the legs is to be conducted, the following observations are made:

"I must again remind you that the reason why ulcers are more frequently found in the lower extremities than in any other part of the body, are more difficult to heal, and are more liable to recur in this situation, is on account of the weight of the superincumbent column of blood weakening the vessels and impeding the circulation through the part. The truth of this will, I imagine, be admitted by all surgeons, though it has not, I think, been sufficiently clearly and forcibly insisted upon by writers on this subject."

Had Mr. Critchett taken the trouble of looking into the chapter on the sources of intractability of ulcers of the lower extremity, in Mr. Chapman's work before alluded to, he would have found this difficulty in healing ulcers of the leg clearly and forcibly insisted on. Mr. Critchett continues:

"It follows as a necessary consequence that the chief aim and object, independent of any specific treatment that the case may require, is to place the circulation on a par with the rest of the body. This object being once accomplished, there is no reason why ulcers so situated should not heal as readily and as quickly as in any other region. The next important question is, how is this desirable result to be accomplished? The answer which at once suggests itself to the mind is, remove the weight of the column of blood by the recumbent position."

The author shows the disadvantages which accompany and follow the treatment by confinement to the recumbent position, and asks:

"Is there no other way besides rest in which the circulation in

the lower extremities can be brought to a par with the rest of the body? I reply, with a confidence based upon extensive personal experience, and upon extensive observation of the same practice in other hands, that there is a plan more rapid, more certain, and far more lasting, and more applicable to a large majority of these cases, than rest, and even useful in some cases where rest fails; and that is, *uniform and complete support to the entire limb, which I maintain cannot be obtained by the ordinary bandage, however skilfully applied, but is only to be efficiently accomplished by a proper application of strapping, so as completely to envelope the limb from the toes to the knee.*"

We now proceed to the second chapter, which contains the chief feature of the book, viz., Mr. Critchett's description of the method by which he employs compression in ulcers of the leg, its modifications in certain cases, and the particulars in which it differs from the plans recommended by preceding authorities on the subject.

"I stated in my former lecture that one main object to be obtained was to facilitate the return of blood through the limb, so as to place the circulation in this part on a par with the rest of the body. Now I maintain most strongly and confidently, both from reasoning on the matter and observation, that Mr. Baynton's plan, so far from accomplishing this object, has a decided and direct tendency to impede the circulation through the limb, and, like a tight garter, produce stagnation, with its train of evils; hence these cautions about strangulation, sloughing, &c., which I have just quoted; and even if it produce benefit in some few cases to the dilated capillaries immediately around the wound, this advantage must usually be more than counterbalanced by the injurious effect upon the rest of the limb. Perhaps it may be argued that the bandage applied so as to cover the entire leg is sufficient to counteract this evil tendency of the circular strips; but I contend that the most perfectly and accurately applied bandage affords but irregular and imperfect support to weak vessels, even when used alone; and when called upon to counteract the strangulating tendency of Mr. Baynton's tight circular adhesive band, it is wholly unequal to the task, and leaves the limb in a most unsatisfactory condition for the healing of a wound. It may be thought that I am insisting with unnecessary minuteness and vehemence upon this matter, and that the plan I am about to propose differs but little from Mr. Baynton's; but I contend that there exists all the difference between a correct and false principle, between a safe, efficient, and widely applicable mode of practice, and one that is at best very limited, doubtful in its results, and dangerous in its tendency.

"I will now proceed to explain to you, in detail, the method I recommend you to adopt, in order to accomplish a complete support to the entire limb. You must seat your patient opposite to you, and support his foot upon a small stool, about a foot and a half high,

and so constructed as to receive the point of the heel, and leave the rest of the foot free. You should be provided with strips of plaster about two inches in width, and varying in length from twelve to eighteen inches, according to the size of the limb. The best material for the purpose is the simple emplast. plumbi of the Pharmacopœia, spread upon soft, unglazed calico, and free from resin, which is often introduced to increase its adhesiveness, but which is very liable to irritate the skin. If the plaster be well made, and of the best materials, it will adhere perfectly. I have often found it unmoved for many weeks, and even months. It is convenient to provide yourself with a metallic warmer, made with a flat top, upon which you can lay three or four pieces, heated either by hot water or small lamps, which are better, if you require it for any length of time. But to proceed. You then take the centre of the first piece, and apply it low down to the back of the heel, and then, with the flat part of both hands, press the plaster along both sides of the foot. This plan is very preferable to taking hold of the ends, in endeavouring to apply them, as it insures a perfectly smooth adaptation of the plaster to the part, and also because it enables you to regulate that very important point, the amount of tightness you may wish to employ. As you proceed with the remainder, you must always remember the principle is to make one portion hold on another; you must, therefore, alternate them round the foot and ankle. Your second piece should be placed in a similar manner underneath the heel, and then carried upwards at a right angle to the last, so as to cover a portion of each malleolus. The third piece should be again applied to the back of the heel, overlapping the first by about one-third; the fourth under the foot, and carried upwards, each piece being pushed along so as to allow it to take its own course. This must be continued until the foot and ankle are covered; the strips must then be carried in a similar manner up the leg, increasing in length as the calf increases, and extending as far as the knee, and in some few cases above this. A calico bandage, about three inches in width, and eight yards in length, varying, however, according to the size of the limb, must now be applied in the following manner:—if it is the right leg, the bandage should be held in the right hand in commencing, and *vice versâ;* this is in order to bring the folds which are necessary as you ascend the leg on the flat part of the tibia. The first turn should be made round the ankle; the second round the foot, near the toes; the third round the lower part of the ankle, near to the os calcis; the next round the foot, overlapping the second about one-half; the fourth round the ankle so as to cover the loose upper end of the fold that passes round the back part of the os calcis; the fifth round the foot; and now you begin to ascend in spiral folds, each overlapping the last rather more than half. As the limb enlarges it is necessary to give a turn to each fold of the bandage; this is done by placing the thumb of one hand on the spot where you desire to limit the extent of the fold, and give a peculiar sweep of the other, in which the bandage is held, so as to leave the bandage

perfectly smooth. But it sometimes happens, particularly in small ulcers situated in the hollow between the maleolus and os calcis, that the diseased vessels immediately around the wound require an amount of pressure which the rest of the limb would not bear. Under these circumstances, very great advantage is derived from applying, previous to the support I have just described, some pieces of strapping about six inches in length, and two inches in width, in a concise manner, over the wound, so as to extend a few inches above and below it. These pieces, as they do not encircle the limb, may be applied with all the force and tightness the surgeon can exert. If this plan be superadded to the other in certain cases, it is of great assistance to the surgeon, enabling him to combine considerable local pressure upon the weakened and distended vessels immediately surrounding the sore, with gentle mechanical support to the entire limb. But, it may be asked, is this complete support of the entire limb always necessary? I answer, certainly not: when the limb is in an otherwise healthy state, the congestion confined to the circumference of the ulcer, and the ulcer is situated tolerably high up the limb, short strips, applied so as to cover a few inches above and below the wound, will answer every purpose; but it is of the utmost importance that these pieces should not surround the entire limb, for reasons that I have before insisted on; and I would lay it down as a rule without an exception, that, in every case in which it is necessary to apply the strapping entirely round a limb, it must never be partially applied, but must encompass and support every part of the leg."

There is nothing novel in the foregoing modification of Baynton's method of strapping; the plan of not entirely encircling the limb with the adhesive strips having been adopted in many of our hospitals for years past.

Mr. Critchett commences the treatment of a simple chronic ulcer of the leg with strapping alone; if, however, it does not progress favourably, if it is irritable or indolent, or the edges look ragged and uneven, he applies, previously to strapping, some stimulating application, either a solution of nitrate of silver, red precipitate, or black wash, or any other application of the same kind that is in common use.

In the third lecture we find a very good account of the acute and subacute ulcer, with the mode of treatment to be adopted; the value of water dressing in the chronic ulcer; and a short description of the plans of treatment recommended by Messrs. Skey, Spendor, and Syme.

"The acute form of ulcer is almost invariably attended with severe suffering, which is aggravated to an intolerable degree when the limb is placed in a depending position. There is a sensation of great heat and tension, and the pain is of an aching, gnawing cha-

racter; the ulcer looks uneven and glassy, the edges are irregular and undefined; sloughs varying in size are often seen on the surfaces; the discharge may be slight or abundant, but it is invariably thin and ichorous; the surrounding parts are of a bright red colour, or sometimes of a peculiarly specky red and white aspect, difficult to convey in words, but very characteristic of this condition: the swelling may be slight, or it may extend over a considerable portion of the limb. On making continued and firm pressure upon the parts in the neighbourhood of this sore they pit, showing a local œdema, which I have invariably found to exist in acute ulceration of the lower limb, and which is very rarely found in subacute or chronic stages, except when there is general anasarca. Any attempt to apply mechanical support during the acute stages of ulceration is invariably attended with injurious effects."

Here Mr. Critchett uses rest, soothing applications, water dressings, &c., and thus speaks of Mr. Chapman's mode of treatment:

"What then is the treatment to be adopted in those subacute ulcers? If the skin remains of a bright red colour, rest must still be enjoined, and it is owing to the extreme difficulty in inducing your patient to submit to this entire rest for a sufficient time that this subacute stage is often prolonged. Strips of linen may be dipped in cold water, and applied so as to give a little support in the same way as in the strapping, and over this strips of oiled silk is a useful plan in the early stage. I have used this method on several occasions, when the inflammation was too acute to bear strapping, and with very marked benefit. It was first suggested to me by my friend and colleague, Mr. Katward, sometime before Mr. Chapman's work on ulcers appeared. I have a high opinion of the plan, but I cannot accord to it all the merit claimed for it by Mr. Chapman. In my experience it has almost invariably happened that, after a certain amount of advantage, a stage arrived when no progress was made, and I have been compelled to have recourse to my usual method to complete the cure. Much has been said and written within the last few years on the subject of 'water dressing' for wounds. I have tried it extensively; it has the advantage of cleanliness, economy, and simplicity, and is certainly an immense improvement upon the complicated unguent of former days; but it is desirable, if possible, to get at its real value. It answers remarkably well in the transition stage from the subacute to the chronic ulcer, but there comes a time when the surface of the sore is either raised and flabby, as in cases where it is combined with entire rest, or becomes dry, and makes no progress towards healing; in either case it has done its work, and some other application must be substituted. I can scarcely recall a single case of any importance, out of many in which I have fully tried this remedy, that I have been able to bring to a successful termination by this application alone."

The fourth chapter is occupied with the treatment of chronic ulcers, the peculiarities which prevent success; the healthy ulcer; and the distinguishing character of the irritable ulcer. In it the author says:

"I will now proceed to inquire what are the circumstances and complications likely to interfere with the success of this plan (treatment by strapping), either retarding the cure, or entirely preventing it. If you meet with a case in which the sore has spread to a very considerable extent, encircling, or nearly encircling the limb, or occupying a very large portion of the lower and back part of the leg, attended, as it usually is with profuse watery discharge, it is very doubtful whether you will be able to effect any permanent good, even by the most judicious employment of mechanical support. Another circumstance that interferes with this mode of treatment is a very irritable skin; most frequently this depends upon the strapping not being pure, and containing resin, rancid oil, or some other irritating ingredient; but occasionally it happens, that when the best plaster is used, the skin becomes so red and inflamed, and even covered with pustules, that you are compelled to abandon it."

In the fifth lecture we have an excellent description of the varicose ulcer, its treatment; specific ulcers, strumous ulcers, phagedenic ulcers, and the different modes of treatment proposed. Whilst considering the subject of varicose veins, and the different modes of treatment proposed, the following observations are made:

"I would only remark, that according to my own somewhat limited observations of cases that have been thus treated, and from what I have gathered from writings on the subject, it seems to me that every plan yet devised is open to two rather serious objections:—viz., first, the obliteration of the vein is attended with difficulty, pain, and even with danger; and secondly, even when accomplished, the smaller veins have become so extensively implicated that in general no real and permanent advantage is gained. The question then naturally arises, is there any safe and certain method of curing this very troublesome and painful class of ulcer? In reply, I state with confidence that experience has shown me that if there is one form of sore more than another, over which strapping, when properly applied, achieves a signal triumph, it is that I am now considering."

The sixth and concluding lecture embraces the treatment of specific ulcers, periosteal, menstrual, œdematous, and malignant ulcers; and is terminated with an inquiry into the propriety of healing up old ulcers of the leg, on which latter subject Mr. Critchett states that, with two exceptions, he cannot call to recollection a single case in which bad constitutional re-

sults followed the healing up of an ulcer; while, on the other hand, he could cite many cases where the removal of a constant source of annoyance and irritation contributed materially to the improvement of the general health.

Having given an impartial trial to the plans of treatment recommended by both Mr. Chapman and Mr. Critchett, our opinion of their relative value may be interesting to the reader. We have adopted Mr. Chapman's plan of treating chronic ulcers of the leg extensively, both in hospital and private practice, and we have seen it used by others; and we have much satisfaction in stating, that in the generality of cases we succeeded in accomplishing with it a rapid and inexpensive cure. When using it we have had recourse at times to the employment of nitrate of silver, solutions of various astringents, chloride of lime, &c., so as to meet the exigencies of each case; the compresses of lint used in the water dressing being dipped into the solution and used in the same manner as in the cold water dressing: but to the equable support of the limb, as recommended by Mr. Chapman, we consider the rapidity and permanency of the cure principally due. Our experience in this respect differs widely from Mr. Critchett's, as may be inferred from that gentleman's remarks on the water dressing which we have quoted. Since Mr. Critchett's work reached us, we have taken every opportunity of testing the value of his plan of treatment, and we have found it to prove highly beneficial in chronic ulcers of the leg accompanied by a varicose state of the veins, and also in varicose legs unaccompanied by ulceration. In some of these cases the patients expressed themselves as having derived more comfort and support from this mode of treatment than from any other before tried with them; in fact it forms a very efficient substitute for a laced stocking. We found in some cases of varicose legs, that, after a few applications, the strapping could be left on for a fortnight or three weeks, the linen roller being occasionally renewed, during which time the patient experienced great relief, and was enabled to go about his business on foot, which must be considered a great advantage, especially amongst the working classes. On the other hand, we have in some cases found that the application of the strapping was followed by inflammation and eruptions on the skin, which occasioned much annoyance to both patient and surgeon. This unfortunately occurred in the person of an old gentleman, the first case in which we used the strapping; and as we took the precaution of obtaining the plaster as free as possible from resin, and as there was nothing about the integuments to justify us in anticipating such a result, we

wish to put our readers on their guard, for in the case alluded to the cure was considerably retarded by this unpleasant event. In no case treated by us on Mr. Chapman's plan did the slightest cutaneous irritation or inflammation ensue; and of his method of treatment we entertain the highest opinion, on account of its cleanliness, facility of application, economy, and soothing support. At the same time we consider Mr. Critchett's plan of strapping from the toes to the knee of great service in the varicose leg, with or without ulceration; a great deal of its success, however, will depend on the proper adjustment of the strapping, the purity of the plaster, and a healthy state of the skin. We strongly recommend the perusal of Mr. Critchett's work to our readers.

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1. *An Introduction to Botany.* By JOHN LINDLEY, Ph. D., F.R.S., Professor of Botany in University College, London, &c. Fourth edition, with Corrections and numerous Additions. 2 vols. 8vo. London, Longman and Co. pp. 406 and 427.

2. *The Elements of Botany.* By ADRIEN DE JUSSIEU, Membre de l'Institut, Professeur au Muséum d'Histoire Naturelle, &c. Translated by JAMES HEWETSON WILSON, F. L. S., F.R.B.S., &c. London, John Van Voorst. pp. 755.

AGAIN is Dr. Lindley before us,—the indefatigable Lindley, with all that mass of accumulated information by which almost every one of his works is characterized, and which must give to that of the present notice a rank pre-eminently high among introductions to botanical science.

To call the present book a new edition of the Introduction to Botany, must, however, convey a very imperfect notion of its nature; it is in reality altogether another work. Since the publication of the third edition in 1839, structural and physiological botany have advanced with a rapidity with which few sciences can show any parallel; recent improvements have rendered the microscope a totally new instrument, by which the investigator of organic being has become endowed with a power far beyond anything which the most successful observers of a very few years ago could lay claim to; while every additional fact revealed by its aid becomes a step to some further discovery, and gives a fresh impulse to the accelerated progress of science. From all quarters of the civilized world new matter is rapidly accumulating; Europe, amid her revolu-

tions, her disorganized society and subverted thrones,—utilitarian, wealth-loving England,—the peaceful savannahs of America,—and the blood-stained ravines of India, have all contributed to the vast influx of phytological truths, which even at this moment are pressing in, thick and fast, upon us.

To no ordinary intellect may be intrusted the task of grasping and arranging the accumulated observations and disconnected theories of such distant regions, and of such different minds; and with perfect sincerity do we say, that this task has been performed, in the work before us, with an ability and a success which could hardly have been anticipated, while there has thus been placed in the hands of the student a complete cyclopædia of structural and physiological botany. It is not, we believe, exactly in this department of the science that the originality of our author's own views is mainly to be looked for; and though the present work is by no means destitute of original matter, we yet conceive its chief merit to consist in bringing together the vast multitude of results which have sprung from phytological research throughout the world, so as to present us with a complete exposition of the present state of the science, while every fact and every theory is with the most scrupulous exactness referred to its proper author.

With all the merits, however, of this excellent work, there is one defect which we cannot help viewing as seriously interfering with its utility. We allude to the deficiency of figures, for, though it contains six copperplates and numerous wood-cuts, these are merely reproduced from the old editions, and, therefore, only illustrate the state of science as it presented itself more than ten years ago; and while in the present edition the matter is nearly doubled, not a single new figure appears to us to have been introduced; a circumstance the more to be wondered at when we reflect that every day is increasing our facility of scientific illustration, and when we call to mind the profusion of wood-cuts which adorn the pages of Dr. Lindley's other excellent publications. We cannot indeed see why the very blocks which furnished the beautiful illustrations for the last edition of our author's Elements of Botany, might not have been employed in giving additional utility and attractiveness to the Introduction.

The Elements of Botany by Adrien de Jussieu, do no discredit to the illustrious name inherited by their author. Lucid and perspicuous in style, full in matter, clear and utterly free from all confusion in arrangement, replete with philosophical thoughts, and in addition to all this, copiously illustrated with admirable wood-cuts,—the Elements of Botany have

acquired on the Continent a reputation in which it is seldom the lot of scientific works to obtain; and we heartily rejoice at seeing them now laid before the English student in an English dress.

Mr. Wilson shows himself to have been in every respect competent for the task of translation, and indeed the work has even improved under its new garb. An admirable introduction from the Cours de Zoologie of M. Milne Edwards, is prefixed; while the addition of an Appendix, with figures of the most important forms of fossil vegetation, and with descriptions, by the translator, of the principal geological formations, increases still further the value of the work. Indeed we hesitate not to consider it as one of the most important acquisitions for the English student.

A Practical Treatise on Morbus Coxarius or Hip-Joint Disease, &c. By W. C. HUGMAN, M. R. C. S., &c. London, Highly. 1849. pp. 81, plates.

IN the symptoms and pathology of hip-joint disease there is nothing new in Mr. Hugman's little work. The account of the symptoms is concise, and no attempt is made to distinguish the disease as commencing with inflammation of the synovial membrane, with ulceration of the cartilages, or with scrofulous disease of the bones. Yet such a distinction does really exist in this as in every other joint; and the practical surgeon can tell, from the local signs, from the age of the patient, the predisposition to rheumatic affections, &c., the true origin of the mischief. Nor is it unimportant to do this early, as the prognosis is very different in synovitis of the hip-joint from what it is in ulceration of the cartilages or in the disease commencing in the bones: treatment very successful in the first is often unsuccessful in the two last.

The summary of the pathology is good; and the author seems to have taken much pains in examining numerous preparations in the different museums, as a result of which he gives a very true, though rather meagre description of the morbid changes. He also makes a slight confusion between the morbus coxæ senilis, with its hard, ivory, bony degeneration, and the disease in children or the young.

Mr. Hugman very properly denies the truth of the opinion, at one time so generally held, that shortening with deformity depended on dislocation of the head of the femur from its socket, on the dorsum ilii. Shortening from this cause is by no means

so frequent as it is from partial destruction of the head of the femur, enlargement of the acetabulum, or yielding of its upper edge.

The main object of Mr. Hugman's book, and for which it is really worth perusal, is to recommend the adoption of a new method of enforcing absolute rest of the limb, by the patient being kept in the prone position, in the same way as first recommended by Mr. Verral for curvatures of the spine.

With regard to the question of absolute rest, there is some difference of opinion among surgeons, though the majority are, we believe, in favour of it. When there is much pain in the hip, aggravated by the least motion of the limb, there can be no question of the necessity of perfect rest, and that in bed is the best; nor is there any fear of the patient stirring, as the increase of pain by motion is a sufficient check; but when, after proper treatment, the violence of the pain has diminished, and is not severe enough to prevent him tossing about in bed, or if, when quiet, he lies on the sound side, with the affected limb bent up, and the body twisted over, making a curve in the spine, mere lying in bed will not do good enough to the limb to counterbalance the injury inflicted on the general health by want of air and exercise; therefore we allow the patient to go about lying at full length in hand carriages with easy springs, or, fixing the limb by properly adapted splints and bandages, allow him to go about on crutches.

Mr. Hugman is an advocate for absolute rest, which, in the manner he enforces it, he says is quite innoxious to the general system. We must refer to his work for an account of his method, as the plates materially assist the description. The drawings of his peculiar mechanical contrivances are good, those of the nude figure are exceedingly bad.

In summing up our views of Mr. Hugman's book, we must say that the symptomatology and pathology have been better done by others. The article by Mr. Adams, for instance, in Todd's Cyclopædia, on the Morbid Anatomy of the Hip-Joint, leaves little to be desired on this head. In the treatment, too, no mention is made of mercury, the efficacy of which has been so firmly established by Dr. O'Beirne; but, as recommending a novel mode of enforcing rest of the limb, we think Mr. Hugman is worthy of commendation. In some cases Physick's closely fitting hip-splints may be most eligible, in others Bennet's large and rather cumbrous apparatus; while in many cases, in the early stage, the surgeon would do well to try the plan of Mr. Hugman.

PART III.

REPORTS, RETROSPECTS, AND SCIENTIFIC INTELLIGENCE.

REPORT

ON THE PLAGUE OF MILAN IN 1630.

Translated and abridged from the Italian of Manzoni.

BY M. DONOVAN.

For some years previous to the breaking out of the plague in 1630, Italy had been oppressed by a series of misfortunes. Contending armies desolated it, each in their turn; while the state of misrule, caused by a continued war, left the inhabitants unprotected by the laws, and at the mercy of a few individuals whose riches and powerful family connexions enabled them to commit the most lawless acts with impunity; added to these depressing causes, the failure of the crops for three or four successive years had produced a dreadful amount of misery: particularly in Milan, where the people, driven to despair by famine, had risen in a body, and had broken into the bakers' shops, destroying the ovens, and thus increasing the evil.

Towards the December of the preceding year the general misery arrived at its height, especially in the city of Milan, where the peasants came in crowds for relief. At this time the streets of Milan presented a truly wretched spectacle. Besides the usual number of professed beggars, crowds of boys dismissed by shopkeepers, nay, the shopkeepers themselves, dismissed servants, and entire families from the surrounding country, wandered about without clothes, food, or shelter, contending with each other for the alms of the passengers. Famine, desolation, and death, everywhere met the eye. Ripamonti relates the case of a woman whose corpse was found in one of the streets of Milan; her mouth contained a quantity of half-chewed grass with which she had endeavoured to appease the pangs of hunger; and, as he expresses it, her lips still seemed in the act of that maddened effort to sustain life.

The mortality at this period, although great, was for some time unperceived, as the void occasioned by it was constantly filled up by the concourse of people from the districts around.

So passed the winter and the spring, and even at this time the Tribunal of Health continually represented to the Provisional Tribunal the danger of contagion which threatened the city, so crowded with misery, and proposed that the beggars should be collected into various hospitals. During the delay occasioned by the discussion of this proposal, and of the ways and means for carrying it into effect, the number of corpses accumulated daily in the streets, and the general amount of wretchedness increased. Finally, a new expedient was devised in the Provisional Tribunal, as being more easy and expeditious, which was, to collect all the beggars, healthy or otherwise, into one place in the lazaretto, there to be maintained at the public expense; and this proposal was resolved on in direct opposition to the opinion of the Sanità(*a*), who vainly argued that it would but increase the danger.

The lazaretto of Milan, which still exists much in the same state as then, was a square enclosure outside the city, divided into small rooms, on one story, to the number of 288. This lazaretto, begun in 1489, had been founded by private bequests, and had been since kept up at the public expense. It was built, as its name implies, as a shelter for persons sick of the plague, which, in those times, frequently raged eight times in the course of a century. At the period, however, at which we speak, the lazaretto was only used as a place of storage for confiscated contraband goods.

Immediately after the decision of the Provisional Tribunal, preparations were made for its conversion once more into a lazaretto. The goods were withdrawn, the rooms strewn with straw, stores of provisions laid in, and the beggars invited by public edict to its shelter. But although, during the first few days, a great number flocked to it, after some time it was found that many causes prevented them from voluntarily accepting the asylum.

The Provisional Tribunal were now obliged to resort to force, and officers (*birri*) were sent round the city, with orders to force the beggars to the lazaretto, and to bring those tied who resisted. For each beggar brought to the lazaretto the officer received the sum of ten pence; and this system worked so well that in a short time 10,000 were collected within its walls.

Although excellent regulations existed for the maintenance of order, they were badly carried into effect. For instance, the inmates, to the number of thirty, slept in each small room, some on putrid straw, and some on the bare ground. It had been directed that the bread should be of good quality; but instead of this it is said by the records of the time that it was adulterated with various heavy substances which were not nutritious. To add to the sufferings of these unfortunate persons, thus forced into the lazaretto, there was a scarcity of pure and salubrious water, the only kind with which they were supplied being that of the ditch surrounding the building.

(*a*) Tribunal of Health.

To these numerous causes of mortality was added a singularly unfavourable season, a long-continued rain being succeeded by an equally long-continued drought. These evils, acting in conjunction with the irritation occasioned by imprisonment, grief for the dead, regret for the absent, and the apprehension and constant spectacle of death, caused such an increase of mortality, that many even at this stage gave the disease the name of pestilence.

The Provisional Tribunal now began to discover the bad effects of their obstinate opposition to the Sanità, and too late endeavoured to repair their error. The doors of the lazaretto were thrown open, the beggars who still continued healthy were allowed to depart, and the sick were conveyed to the hospital of Santa Maria della Stella, where the greater number died.

Meanwhile the harvest began to approach; the beggars from the surrounding districts left Milan, and returned to their respective countries to prepare for reaping; and the good Cardinal Federigo Borromeo, remarkable for his many acts of benevolence during this and the preceding years of distress, caused a giulio(*a*) and a reaping-hook to be given to every peasant who presented himself at his residence. With this harvest ended the famine, and the mortality continued to diminish until the end of autumn, when a new scourge brought a renewal of disease.

From various political causes, unnecessary to mention, the Emperor Ferdinand of Germany judged it expedient to send a body of German troops through the Milanese, to undertake the siege of Mantua. As it was a well-known fact, and had been mentioned so far back as a century before by Varchi, that the plague constantly lurked amongst the German soldiers, the Tribunal of the Sanità deputed Dr. Tadino, as he himself relates, to represent to the Governor, Don Gonzalo, the frightful peril which the country would incur if this army were allowed to pass. The answer of the Governor is perhaps, of all his actions, the one most worthy of being recorded; he replied, that he did not know what to do; that the motives which occasioned the movement of the troops were of greater import than obviating the danger represented; that they must do their best to remedy the evil, and trust in Providence.

The two physicians of the Sanità, Tadino and the senator Settala, proposed in the Tribunal, that all persons should be forbidden, under the severest penalties, from buying goods of any kind from the soldiers. But it was impossible to make the President understand the necessity of such a regulation. "He was," says Tadino, "a man of great goodness of heart, but could not believe that the death of so many thousands could be the consequence of commerce with these soldiers or their goods."

The month of September was the time fixed for the departure of the German troops, and accordingly about that time the first detachment of them passed through Milan, on their way to

(*a*) About six-pence sterling.

Mantua, under the command of Rambaldo de Coltalto. On their approach the chief part of the inhabitants fled to the mountains; a few remained, however, either for the purpose of watching over some sick person, or of keeping within view their valuables, which many had concealed. However, all their stratagems were of no avail, for the soldiers, a most undisciplined body, well versed in acts of rapine, searched every corner of the houses, burned the furniture as wood, and forced its owners by torture to reveal where their treasures were concealed. Matters became worse as each successive squadron arrived. As every available commodity had been already carried away, they revenged themselves on the wretched inhabitants by ill treatment; burned the doors of the houses, and in some cases the houses themselves; and, finally, after a sojourn of twenty days, departed, leaving the villages through which they passed almost uninhabitable.

Throughout the whole stripe of country through which the army had marched, corpses were found, some in the houses and some in the streets. Shortly after, in different parts of the country, persons, nay, even whole families, were taken ill with strange and violent disorders, which carried off many, and presented symptoms unknown to the greater number of the survivors. But the proto-physician, Ludovico Settala, who had seen the disease called the plague of "San Carlo," fifty-three years before, and had been one of the physicians most reputed for its cure, attentively studied the symptoms of the new disease, and on the 20th of October, 1630, reported to the Tribunal of the Sanità, that the plague had undoubtedly broken out in the territory of Chuso. Of this report we know, on the authority of Tadino, that no notice was taken. Similar reports were soon after made from Lecco and Bellano. The Provisional Tribunal now determined to send a commissioner and a physician to visit the places mentioned.

They arrived there; but, according to Tadino's account, seem to have been very careless in their investigations. He says, "they allowed themselves to be persuaded by an old and ignorant barber, that this disease was not plague, but partly the effect of the autumnal exhalations from the marshes, and partly the effect of the sufferings caused by the passing of the German troops." This assurance was reported to the Sanità, and with it they appear to have been contented for some time.

Renewed reports of mortality, however, once more obliged the Sanità to send two delegates to investigate further; one of these was Tadino, and the other an auditor of the tribunal. On their arrival they found that the calamity was no longer doubtful.

The districts of Lecco, Valsassino, and Como, were overrun by it; the villages were obstructed by barriers placed at their entrances; other villages were almost deserted, the inhabitants having fled, and the few who remained endeavoured to protect themselves against contagion by carrying musk, rue, rosemary, or a bottle of vinegar. This fact having been made known to the Sanità by le-

they published a bulletin, forbidding all intercourse between the city and the infected places.

Notwithstanding that the Governor (Spinola) had been duly warned of these facts, and that he had expressed great anxiety on the subject, he, on the 18th of November, published a proclamation commanding public rejoicings for the birth of Charles, eldest son of Philip IV., without suspicion or care of the danger which might arise from such a concourse of people at such a time. But can we wonder at the conduct of the Governor, involved as he was in the affairs of the war, when we find that the people, far from taking the necessary precaution against infection, actually felt ill-will to those who asserted that the prevalent disease was the plague, and resented their opinion with incredulous smiles or angry contempt? That such was the case, however, the records of the time assure us.

The same blindness and perversity of opinion pervaded the Senate, the Council of Decurions, and the magistracy. The tribunal of the Sanità was the only exception; they implored, nay, demanded co-operation, but with little effect. Even in this tribunal the precaution was far from being equal to the urgency; for, as Tadino affirms, there were only amongst them two physicians, who, persuaded of the seriousness of the danger, urged them to activity.

Another instance of the carelessness and inertness which marked every action of the government at this critical period was, that the bulletin above mentioned, for the prevention of communication with diseased towns, which had been resolved on the 30th of October, was not published till the 27th of the following month. By this time the plague had already entered Milan. Tadino and Ripamonti disagree as to the date, Tadino making the day of its first appearance the 22nd of October, and Ripamonti one month later. The following circumstances relating to its entrance into Milan are recorded by both.

A soldier entered Milan with a large bundle of clothes bought or robbed from German soldiers, and went to reside at the house of some of his relations in the *borgo* of the *Porta Orientale*. Almost immediately after his arrival he took ill, and was brought to the hospital, where the fatal signs of the disease were discovered under his arm, and on the fourth day he died. The Sanità, immediately after his death, caused his family to be sequestered, and his clothes and the bed in which he had lain to be burned.

The suspicion which had been entertained from the beginning of the nature of his disease, and the precautions used in consequence, prevented its further spread in that place, except in the case of a friar and two servants who had attended him, and who took the disorder in a few days after.

But the soldier had left the seeds of the disease in the house where he had lodged, and it was not long before their growth was fatally evident. The first person attacked was the master of the house, a lute-player named Carlo Colonna. As soon as his illness was known, all the lodgers were, by order of the Sanità, obliged to

enter the lazaretto, where the greater number of them became ill, and in a short time many died, manifestly of the contagion.

From time to time, in different quarters of the city, persons were attacked by the disease, and died; but the rare occurrence of these cases confirmed in the public mind the foolish and injurious conviction that it was not plague which had occasioned their death. Even the physicians added their voices to the general opinion, and were always ready with the name of some common disease to qualify every case of plague which occurred, whatever might have been the symptoms. The fear of the lazaretto prevented these cases from being duly reported to the Sanità. Attacks of the disease were concealed, the grave-diggers were corrupted, and even the lower officers of the Sanità, appointed to inspect the corpses, were bribed to give false evidence.

The tribunal of the Sanità, and especially its two physicians, Tadino and Settala, were the objects of extreme aversion to the people, so much so that they could not appear in the streets without being assailed by abusive language and even stones. It is related of Settala, then nearly eighty years old, that on one occasion, going to visit his patients in a sedan chair, a crowd collected round him, exclaiming that he was at the head of those who were determined to maintain that plague had broken out in the city, and that he had terrified the inhabitants merely for the sake of giving business to the physicians. He saved himself only by taking refuge in the house of a friend, to which by chance he was near; and thus he was rewarded for using his best efforts to save thousands of persons from death. A short time before he had received the title of *Benemerito* for having assisted in the torturing and burning of an unfortunate woman as a witch, whose guilt was presumed because her master suffered from unaccountable pains in the stomach, and because a former master had been strongly attached to her(*a*).

But towards the end of the month of March, illness and death became very common, especially in the Porta Orientale, accompanied by strange symptoms, as spasms, palpitation, lethargy, delirium, and the fatal livid spots and sores. These deaths, for the most part, took place after a very short and violent sickness, and even sometimes suddenly, without any previous indication of disease.

These physicians who had been opposed to the opinion of plague, being now obliged to give some name to the new disease, found that of pestilent or malignant fever; and even succeeded in persuading the public that the disease was not propagated by contact, an idea which caused great mischief. The magistrates, however, who now for the first time awoke, as from a dream, began to attend to the opinions and proposals of the Sanità; but money sufficient to carry out these intentions was not forthcoming. In the lazaretto, where things were in a state of the greatest confusion, every effort failed to establish a due degree of order till the Sanità and Decurions, not

(*a*) *Storia di Milano del Conte Pietro Verri.*

knowing which way to turn, entreated the Padre Commissario of the province to give them some officers capable of governing. The Commissario proposed as the principal Padre Felice Casati, a man well known for his charity, activity, and kindness; and as his assistant, Padre Michele Pozzobonelli, a man still young, but grave and severe in his habits. They were accepted with pleasure, and formally invested with full authority over the servants and officials of every grade in the lazaretto. From this time the Padre Felice continued indefatigable in his charge, assuaging tumults, comforting the dying, and sympathizing with the afflicted. In the beginning he contracted the disease, but, being cured, he returned to his pious undertaking with renewed ardour.

By degrees, the disease, which had hitherto been chiefly confined to the lower orders, began to spread amongst the better classes; amongst these the physician Settala was attacked, along with his wife, his two sons, and six persons in his service. Settala and one of his sons recovered, but the rest died.

At this stage of the disease it became impossible longer to deny its nature. Those who had till then denied that there was amongst them a germ of evil which might be propagated by natural means, and might commit the most frightful ravages, now endeavoured to find other causes in order to account for the spreading calamity. Unfortunately this was not difficult. At this time a common idea prevailed, not only here but in every part of Europe, that persons were in existence who had conspired to spread the plague by means of contagious poison and magic. Similar absurdities had been believed during the prevalence of many other pestilences, particularly that of half a century before. It happened also, that during the previous year a despatch had arrived from Philip IV. of Spain, warning the Governors that four Frenchmen, suspected of spreading poisonous and pestiferous ointments, had escaped from Madrid, and were supposed to have taken refuge in Milan.

This despatch was communicated by the Governor to the Sanità, but it appears that little notice was taken of the affair. But at the time of which we write, when the plague had broken out and was recognised as such, these circumstances appear to have made a stronger impression on their minds, and to have given rise to a suspicion of an organized plot. Two facts sufficed to convert this suspicion almost into a certainty.

On the evening of the 17th of May some individuals affirmed that they had seen persons engaged in anointing the partition in the cathedral of Milan, which served to divide the places appointed for the two sexes. On hearing of this, the President of the Sanità, with four officials, hastened to the cathedral, and, having inspected the partition, the benches, and the cistern for holy water, declared that they could find no mark to confirm the suspicion of poison, and contented themselves with directing the partition to be well washed, merely in compliance with public opinion. But this was far from

being satisfactory to persons oppressed by a blind terror; and accordingly, during the night, they caused the partition and benches to be carried out of the church.

This circumstance produced a great effect on the multitude, especially the sight of the heap of wood taken from the church, which appeared to them to authenticate the fact of its having been anointed. There still remains in the archives called San Fedele, a letter from the Sanità to the Governor, in which these facts are described.

The following morning a new spectacle met the eyes of the citizens. The doors of the houses and the walls were found streaked, as if by a sponge, with some yellowish, greasy substance. Whether this was a foolish jest or a wicked design to increase the public confusion, the thing is well attested; but it appears more reasonable to believe it the act of a few than the dream of many, especially as it was neither the first nor the last act of the kind. Ripamonti, who often derides and deplores the popular credulity on this subject, asserts that he had seen this plastering (*impiastramento*), and describes it. Also, in the above-mentioned letter, the members of the Sanità relate the circumstance in the same terms, and speak of experiments made on dogs with it, which had no bad effect; and they add that the whole affair seemed to originate rather in a foolish frolic than in a bad design.

In this opinion, however, the public in general did not agree. Some believed that it had been done by command of Don Gonzalo, in revenge for the insults he had received at his departure; some that it was an invention of the Cardinal Richelieu to depopulate Milan, in order to render himself master of it without trouble; and some, for some unknown reason, imagined Wallenstein to be the author of it. Some few there were who conceived it to be a foolish jest, and attributed it to the students.

Many persons were still unconvinced of the existence of the plague in the city; one of their last arguments, which was also used by some physicians, was, that several had recovered, and that, therefore, the disease could not have been plague, as in that case all would have died.—(Tadino).

To remove every doubt, the Sanità adopted an expedient,—a mode of speaking to the eyes,—which the state of the times seemed to require. It had been the custom of the citizens every year, towards Easter, to proceed in vast numbers, on a particular day, to the cemetery of San Gregorio, there to pray for those who had died during the prevalence of a former plague. It happened that, on the day appointed for this ceremony, in the year of which we speak, amongst other victims, a whole family had died. On the same day, at the time of the greatest crowd, amongst carriages and persons on foot and on horseback, the bodies of this family were, by order of the Sanità, conveyed on a cart to the cemetery, stripped so that all might see the fatal marks. A cry of horror was raised everywhere

on the appearance of the cart; the existence of the plague was no longer doubted, and the disease continued from that time to extend its ravages frightfully.

A report now arose that the walls, gates of public edifices, and doors of houses, were visibly anointed. This report gained a ready credence, because, as Verri remarks, it is more in accordance with our nature to attribute misfortunes to human wickedness, which we may revenge, than to recognise them as proceeding from a cause to which we can do no more than resign ourselves. An exquisite poison, instantaneous and most penetrating, were words more than sufficient to explain the violence, and all the most obscure and irregular symptoms of the disease. The poison was supposed to be composed of toads, serpents, and the foam which issued from the lips of persons sick of the plague. When to this was added the idea of magic, every effect became possible, and every difficulty vanished.

Whoever now maintained that the anointing had been a jest, or denied the existence of a plot, was considered to be blind or obstinate, if he did not fall under the suspicion of being one interested in turning public attention from the truth, an accomplice or an anointer, a word now become full of solemn and tremendous meaning. Ripamonti relates two facts on this subject, which he expressly tells us he has chosen, not as the most atrocious in their nature of those which happened daily, but because he was himself an eye-witness of both.

In the Church of San Antonio, on a solemn day, an old man of more than eighty years of age, after having prayed on his knees for some time, wished to sit down, and before doing so dusted the bench with his cloak. "That old man is anointing the benches," cried some women who had seen the act. The people who were in the church rushed on the old man, caught him by the hair, white as it was, assailed him with kicks and blows, and dragged him out; nor did they cease until they brought him but half alive to the prison and the torture. "I saw him while they dragged him thus," says Ripamonti, "and heard nothing more of him, but I believe that he could not have survived many moments." The other instance, which took place the following day, was equally extraordinary, but not equally fatal. Three young Frenchmen, a scholar, a painter, and a mechanic, who had come to study in Italy, having approached the cathedral, remained for some time examining it attentively. A passenger saw them, and stopping, beckoned to others to approach, who formed a crowd round these persons, whose dress, and manner of wearing the hair, betrayed them to be strangers, and, worse than that, Frenchmen. As if to assure themselves that the material was marble, the young men extended their hands to touch it. This was enough. They were surrounded, put in irons, ill treated, and dragged to prison. By a fortunate chance, the Palace of Justice was not far from the cathedral; and by a still more fortunate chance, they were found innocent and set at liberty.

Meantime the Decurions repeatedly intreated the Cardinal Fede-

rigo, for his consent to a procession in honour of San Carlo, and after much importunity prevailed. We do not find that the Sanità, or any other authority, made any opposition or remonstrance. The only precaution they took was one which, without lessening the danger, indicated fear of it. This was to prescribe stricter rules for the entrance of persons into the city; and in order to secure the execution of them, the gates were kept shut. With a view of excluding infected persons from the procession, the doors of the sequestered houses, which, according to C. G. Cavatio della Somiglia, amounted to 500, were nailed up. On the 11th of June, at dawn, the procession issued from the cathedral, and, passing through all quarters of the city, stopped at every place where, during the preceding plague, a cross had been erected by San Carlo.

But the following day, while a presumptuous and fanatical confidence occupied the minds of many who believed that the procession must have put a stop to the plague, the deaths increased to such a degree, and so suddenly, that there were none who did not acknowledge the procession as the cause of it.

But—wonderful and melancholy strength of a general prejudice! —the greater number attributed the increase of the calamity, not to the collecting together of so many persons for so long a time, not to the infinite multiplication of casual contact, but to the facility which the anointers had found in executing their wicked designs. It was said that, mixed among the crowd, they had infected with their ointments as many as they could. But as this did not appear a cause sufficient to account for a mortality so vast and so diffused; as it was impossible for the most attentive eyes to perceive traces of anointing, or spots of any kind, on the walls or elsewhere; they had recourse to the belief, already received into the common science of Europe, of poisonous powders. It was said that such powders, being scattered along the streets, and particularly in the places where the procession had stopped, had adhered to the skirts of dresses, and especially to the feet, as on that day many had followed the procession barefooted as a penance.

From that day the fury of the contagion continually increased. In a short time there remained scarcely a house uncontaminated by it, and the population of the lazaretto, according to Somiglia, rose from 2000 to 12,000; and later, as almost all agree, to 16,000. On the 4th of July we find, by a letter from the Sanità to the Governor, that the daily mortality exceeded 500, and, if we may believe Tadino, rose during the height of the disease to 3,500. He also affirms that after the plague, the population of Milan, which before had exceeded 250,000, was found reduced to a little more than 64,000.

On the Decurions rested the weight of providing for the public necessity, and remedying what could be remedied in such a disaster. They were every day obliged to substitute and increase public servants of every kind, *monatti*, *apparitori*, and *commissari*. The first were employed in the most painful and dangerous services of the plague, that of taking away the corpses from the houses, the streets,

and the lazaretto; bringing them in carts to the pits, and burying them; leading the sick to the lazaretto, and directing them; and burning or cleansing infected goods. The employment of the *apparitori* was to precede the carts, warning the passengers by the sound of a bell, that they might retire. The *commissari* regulated both under the immediate orders of the Sanità.

It was necessary to keep the lazaretto supplied with physicians, surgeons, medicines, provisions, and all the appliances of sickness; and also to find additional accommodation for the patients who arrived there daily. For this purpose wooden sheds were constructed in the internal space of the lazaretto, as well as a new lazaretto, consisting of sheds surrounded by a wooden partition, capable of containing four thousand persons.

At this time the large pit which had been dug near the lazaretto being filled with corpses, and the number of them remaining unburied in the city increasing daily, the magistrates, after having in vain demanded assistance, were reduced to acknowledge that they did not know how to act. In this extremity the President of the Sanità had recourse to the two good friars who superintended the lazaretto. The Padre Michele pledged himself that at the end of four days no corpses should be found in the city, and that at the end of eight, pits should be dug of size sufficient for the worst that could happen.

Accordingly, in company with another friar, and some persons given him by the Tribunal, he left the city in search of peasants; and partly by the authority of the tribunal, partly by his habit and exhortations, he collected about 200 of them, whom he employed in digging three enormous pits; he then sent monatti from the lazaretto to inter the dead, so that on the day fixed his promise was fulfilled.

Once, the lazaretto remained entirely without physicians; but, by means of great payment and promised honours, a few were procured, though not in proportion to the necessity. Provisions were often on the point of failing; hence it was feared that deaths would occur from hunger; but more than once, in the last extremity, abundant contributions were furnished from the charity of private persons.

In the general confusion and relaxation of all authority, caused by the continuance of the disorder, there were not wanting persons who took advantage of the public distress for their own wicked ends. The monatti and apparitori consisted almost entirely of men over whom the attractions of plunder and licentiousness had more power than the fear of contagion and horror of the employment. Certainly the strictest rules were prescribed to them, and the severest penalties threatened. Their places were assigned to them by their superiors, the commissari, over whom were delegates, chosen from the magistrates and nobles, and armed with authority to provide summarily for every occurrence. But as the number of those who died or left the city daily increased, the monatti and apparitori found themselves almost entirely unrestrained by any superior power; the monatti especially made themselves arbiters of everything. They entered as masters or as enemies into the houses, robbed and ill-

treated the unfortunate persons subjected to their control by sickness; and laid their infected hands on healthy persons, children, parents, husbands, and wives, threatening to drag them to the lazaretto if they were not redeemed with money. On other occasions they set a price on their services, and refused to carry away the putrid corpses unless for so many crowns. It is even asserted by Tadino that the monatti and apparitori purposely let fall infected clothes from the carts, in order to propagate the plague, which had now become a considerable source of revenue to them. Other wretches, feigning themselves monatti, and wearing a bell, the prescriptive distinction of a monatto, fastened to one foot, entered unoccupied houses, or houses occupied only by the dying, and plundered them with impunity. All these things tended to increase and confirm the terror which the anointers inspired. Ripamonti, speaking of this time, says: "The heaps of corpses always before the eyes, always under the feet, made the whole city a kind of dead house." There was something most hideous and frightful in that unrestrained and mutual distrust, which rendered not only neighbours, friends, and guests, suspected, but occasioned even husband and wife, father and son, brother and brother, to live in terror of each other. And—horrible to relate!—even the domestic table was feared as a hiding place of poison."

In the beginning, it was believed that these anointers were only actuated by motives of ambition and covetousness, but as the disease progressed it was asserted that there was an unknown diabolical pleasure in anointing, and an attraction which governed the will. The ravings of the sick, who accused themselves of what they had feared from others, appeared like revelations, and rendered everything credible. It often happened even that plague-patients, in their delirium, performed those actions which they had imagined the anointers to have done, and this had more effect than their words in convincing the multitude.

Amongst the stories to which this anointing mania gave rise, one particularly deserves notice, from the general credence which it obtained.

It is related that a person on a certain day saw a carriage arrive at the square of the cathedral, within which was a great personage, whose countenance was dark and inflamed, his eyes were fiery, his hair erect, and the expression of his countenance threatening. Whilst the first-mentioned person continued looking on attentively, the carriage stopped and the driver invited him to enter it. He complied, and after many turnings descended at the door of a certain palace, which he and the other entered. Here were presented to their view pleasures and horrors, deserts and gardens, caverns and saloons, and in them phantoms seated at council. Finally, they showed him great chests of money, and desired him to take as much as he pleased, with the condition that he should also take a little vessel full of ointment and go about anointing the city. He, however, not consenting to execute this commission, found himself in a

moment in the place from whence he had been taken. This absurd story, which Ripamonti says was not sufficiently derided by any writer of authority, spread through all Italy and beyond it. In Germany a print was made of it, and the archiepiscopal Elector of Magonza wrote to the Cardinal Federigo to inquire if he ought to believe those extraordinary facts which were related of Milan. The answer given was, that they were dreams.

The dreams of the learned, if not of the same nature, were equally disastrous in their effects. The greater number of them believed that they had found both the announcement and the cause of the misfortune, in a comet which had appeared in the year 1628, and in a conjunction of Saturn with Jupiter. Another comet which had appeared in the June of the year of the plague, was taken for a new warning, nay, for a manifest proof of anointing. They searched into books, and were but too successful in finding examples of plague manufactured as they affirmed. Livy, Tacitus, Dion, and even Homer and Ovid, were cited, along with many other ancients who have related or referred to similar facts. They were not wanting also in quotations from authors who had written on poisons, ointments, powders, and magic, and especially from the fatal Delrio, whose "Disquizioni Magiche," a collection of all that, up to his time, mankind had dreamt on the subject of magic, gave authority for more than a century to legal, horrible, and uninterrupted sacrifices of life.

Tadino, who had watched the progress of the disease, and who had declared that it was plague, that it was communicated by contact, and that, if precautions were not taken, it would infect the whole country, now seems to have changed his opinion, for we find him, from the same appearances, concluding in favour of poisonous and malignant anointing. He who, in the case of Carlo Colonna, the second who had died of plague in Milan, had noted the delirium as one of the symptoms of the disorder, nevertheless adduced the following alleged facts, in proof of the anointing process and a diabolical plot. He declares that two witnesses affirmed that they had heard from a sick friend that one night some persons had come into his room, and offered him a cure and money if he would anoint the houses in the neighbourhood; and that on his refusal they had gone away, and left behind them a wolf under the bed, and three black cats on it, which remained until day!!! Even the good Cardinal, so superior to the greater number of his contemporaries, seems to have partly credited this ridiculous narrative, though he believed it to be greatly exaggerated. In the Ambrosian Library there is preserved a little work of his, in which are the following words: "It was a common opinion that these ointments were compounded in various places, and that there were different ways of working them, some of which appear true, and some invented." In the same library there remains a letter in which the Chancellor informs the Governor, with great concern, of his having received notice that in a country house belonging to two Milanese gentlemen, poison was compounded in such quantity that forty men were employed at it, assisted by four

Brescian gentlemen, who brought the materials from Venice. He adds, that he had very secretly taken the necessary measures to send there the podestà of Milan and the auditor of the Sanità, with thirty cavalry soldiers; that one of the brothers had been warned in time to conceal the proofs of his crime, but that, nevertheless, the podestà had gone with the soldiers to take informations, and to arrest all who were guilty. This affair appears to have ended in nothing; but in other cases many persons were tried and condemned to the most atrocious punishments for having propagated the plague by means of ointments or powders, or both. The particulars of these trials are to be found in Manzoni's "*Storia della Colonna Infame.*"

The plague arrived at its height towards the end of August. It is impossible to describe the wretchedness which reigned throughout Milan at this period. The weather was close, the air heavy, everywhere loaded with an equally dispersed fog, which appeared to obscure the sun without promising rain. The country around was uncultivated and arid; not even a drop of dew refreshed the faded verdure and the withered and languishing leaves. A dead silence reigned through the streets, unbroken, except by the melancholy sound of the bell carried by the apparitori, announcing the approach of the dead cart, heaped full of corpses. In all the squares, and in the principal streets, appeared the frightful machine for torture, in order that the deputies of each quarter might have the means of immediately applying it to every one who appeared deserving of punishment, such as sequestrated persons who left their houses, subalterns who did not execute their duty, and similar offenders.

Trade was nearly at an end, and the little which remained was transacted by means of pincers which handed out the required article, while the money was placed in a vessel of vinegar and water.

The quarter of the city called Porta Novo was that which suffered most from the disease. In that neighbourhood such had been the fury of the contagion, and the fetor of the corpses, that the few remaining survivors were forced to leave it. In one street all the doors of the houses were locked, owing to suspicion or terror, except those which were uninhabited or had been broken into. Some were nailed and sealed, to show the presence of the plague there; some were marked with a cross made with charcoal, as a signal to the monatti that there were dead to be carried away. At every step were seen loathsome rags, infected straw or blankets, which had been thrown from the windows; and even corpses either of persons who had died suddenly in the streets, or which had perhaps fallen from the carts, or been thrown from the windows; to such a degree had the continuance and severity of the misfortune hardened the hearts of the survivors. At that time about two-thirds of the population had died; and of those who survived, a great part were sick or had left the city; so that the number of persons who were seen out of doors was reduced almost to nothing. Scarcely one could be met in whom something strange was not to be observed, which gave indication of the fatal and general change. Persons of

the highest rank appeared without mantles, then a most essential part of the dress; priests were to be seen without cassocks, and monks in their doublets. In short, every article of dress was discarded, which, in flying about, might touch anything, or, what was dreaded more than all, give opportunity to the anointers. Beards were allowed to grow, and hair was left entangled, not only from the neglect which springs from long dejection, but on account of suspicion which had fallen on the barbers, one of their number, Giangiacomo Mora, having been condemned as a notorious anointer. Most persons carried sticks in their hands, or even pistols, as a threatening admonition to any who might wish to approach too closely; others had odorous pastilles, or perforated balls of metal or wood, within which was sponge soaked in medicated vinegar, which they constantly applied to their noses. Some wore phials containing quicksilver, hung from their necks, persuaded that it had the virtue of absorbing and retaining every pestilential exhalation. Gentlemen not only went out without their accustomed followers, but were to be seen with baskets on their arms purchasing the necessaries of life. Friends, when they met in the streets, saluted each other from a distance with hasty and silent signs. Persons walking had much to do to avoid the loathsome and lifeless obstacles with which the ground was encumbered. Each endeavoured to walk in the middle of the street, fearing that infected articles or corpses might be thrown from the windows, or dreading the poisonous powders which it was believed were often thrown on the passengers, or the ointments with which they conceived the walls to be anointed.

The lazaretto contained at this time (the end of August) 16,000 patients. The state of the weather before adverted to, which oppressed all nature, added to the sufferings of its wretched inmates. Those already infected suddenly sank under the new oppression, and the last struggles of the dying were more painful. Amidst the misery to be seen throughout the lazaretto, a strange contrast was presented in the room assigned to those infants whose mothers had died of the plague. Some of them were nursed by women who had lost their own children, and some by goats, which, as if inspired with a maternal feeling, attended to their cries, and endeavoured to accommodate themselves to the position of the infant.

The disorder was now at its height, and, after the sudden increase of deaths caused by the state of the weather, an equally sudden decrease, or almost a cessation, took place. It was attributed to a tremendous fall of rain which continued for two or three successive days and nights. After this, almost no deaths occurred in the lazaretto, which, therefore, became useless, except to restore those within its walls to health. A quarantine was ordered when these returned to their houses, and within a week from the beginning of the rain the doors and shops of the city were re-opened, and there remained nothing more of the plague but some lingering traces (*strascico*), which such a scourge always leaves behind it for some time.

MORAL.

Such is the history of this frightful visitation, one of the most terrific on record. Let the world learn from it a lesson against supineness, obstinacy, and want of unanimity in the councils of those who undertake the awful responsibility of protecting a nation from the ravages of famine and pestilence, whether they be governments, legislators, physicians, or political economists.

EXTRACTS

FROM THE RECORDS OF THE CORPORATION OF BARBER SURGEONS OF DUBLIN.

By WILLIAM D. MOORE, A. B., M. B.

In endeavouring, on a former occasion(*a*), to trace the origin and history of pharmacy in Ireland, I gave a brief account of some of the ancient charters and records of the body incorporated as the Corporation of Barbers, Barber Surgeons and Barbers, Surgeons, Apothecaries, and Periwig-makers, by the successive grants of Henry VI., Elizabeth, and James II., respectively. These records, as I then mentioned, I had, after much search, found in the possession of Michael Farrell, Esq. Shortly after the publication alluded to Mr. Farrell died, and his son, Mr. Samuel Farrell, very kindly intrusted to me the documents which his father had saved from destruction, in order that I might carry out a suggestion which I had formerly made, that they should be deposited in a public library. The possession of these during the past winter has enabled me to examine them at my leisure, and this examination has fully proved that, while the government of the professions of surgery and pharmacy was legally intrusted to the body I have mentioned (in the case of surgery, until the establishment of the Royal College of Surgeons in 1784, and in that of pharmacy until the incorporation of the apothecaries of Dublin as the Guild of St. Luke, in 1745–6), these professions, at least since the commencement of the eighteenth century, rejected the yoke of a corporation who felt it to be part of their duty to give their deliberate opinion that "three Bob Wiggs and a Tye Wigg taken up from — M'Namara are not merchantable goods," and to order that he should be prosecuted at law "for vending or exposing to sale the same, in order to defraud and cheat the publick"(*b*).

Nevertheless several "chyrurgeons" appear from the Transaction Books to have been from time to time admitted; it is extremely

(*a*) See vol. vi. of the present series of this Journal, p. 64.
(*b*) Transaction Book, 24th November, 1720.

probable, however, that most of these were barbers, who, in addition to their more immediate calling, practised phlebotomy, tooth-drawing, &c. Some of them appear to have been lamentably ignorant, and fully to justify the allegation of the College of Physicians, in reference to the intrusion of the surgeons, that "unskilful illiterate persons" were in the habit of practising physic(*a*), for in 1695 Richard Shore, chirurgeon, signs *with his mark* a bond not to "learn or instruct any apprentice or other person in any art, science, or trade now used by any of the members, &c., until he shall be admitted a free brother of the corporation." Richard Burn, in 1704, in like manner, signs a similar bond with his mark(*b*).

From the "book of quarterages and entry of forcigners" it would appear that this body endeavoured occasionally to keep the several branches over which they presided distinct; thus, in 1693, we find Charles Chambers, apothecary, bound in the penal sum of £40 not to practise barbing, chirurgery, or peruke-making, without leave of the corporation first had. Stephen Cassan, chirurgeon, is in like manner bound not to practise pharmacy or peruke-making; Daniel Rowle, barber and peruke-maker, is restrained from "intruding on the corporation by practising pharmacy or any part of chirurgery, phlebotomy and tooth-drawing only excepted."

Some memoranda which occasionally occur in the Transaction Books may throw some light on the customs of the times; thus it is stated that in 1691 John Ceevy, mountebank, paid 2*s.* 9*d.* for his stage; and in 1701, £1 3*s.* was paid as a retaining fee to the Recorder, and £2 8*s.* 6*d.* as a fee to the Solicitor-General, "towards prosecuting those persons that worke up horschaire and other unlawfull haire."

Thus also in 1731 we find an order for the corporation to ride the franchises(*c*) with tye perukes and long cravats, as usual. In 1750-1 a committee was appointed "to inspect into and detect the several abuses committed by barbers and periwig-makers in the city of Dublin, by shaving and dressing wigs on the Lord's Day, commonly called Sunday, and all other abuses;" and at a subsequent meeting a fine of 10*s.* 10*d.*, for the use of the poor of the corporation, was imposed for every such violation of the Sabbath: but if one barber should shave the customer of another (or dress his wig) on the Lord's Day, the penalty was to be 30*s.*

A resolution appears on the books, 30th September, 1703, to take steps to defeat the attempts of several surgeons of the guild and several "foreigners"(*d*), surgeons who had combined together and printed a case or address to Parliament, endeavouring to ob-

(*a*) Journal of the House of Commons (Ireland), vol. iii. p. 429; and Dublin Quarterly Journal, vol. vi. p. 84.

(*b*) Book of Quarterages and of Entry of Foreigners.

(*c*) See vol. vi. p. 88.

(*d*) For the meaning of this term, as used by the corporation, see vol. vi. p. 87.

struct all the brethren of the Guild, who were not educated or bred chirurgeons, from practising surgery, and by that means to make null and void the several charters granted to the corporation, to the great prejudice of the brotherhood.

In 1714 the corporation, having prosecuted some persons for infringement of their rights, received a reprimand from the Lords Justices, conveyed through their secretary, Edward Budgell, Esq. Their Excellencies' communication concluded with the advice to let such parties alone for the future. The corporation, however, were not so easily diverted from their purpose, and sought the intervention of the Lord Mayor and Recorder; the consequence of which was, that their Excellencies "receded from what had been proposed in their first letter," stating that the matter had been previously misrepresented to them; and declared that they were resolved never to do anything which might in the least appear to violate the rights of a corporation.

In 1716 a correspondence took place between the corporation and Mr. Proby, at that time His Majesty's Chirurgeon-General for Ireland, which, as Mr. Proby's letters are characteristic both of the times and of the writer, will, I trust, hereafter appear at length in his biography. In it the corporation complain of Mr. Proby's invasion of their rights, in practising surgery without being a member of their body, they only having a power, by ancient laws, to regulate the practice of chirurgery, &c.; and state that the high position held by him induced many to follow his example. Mr. Proby in his answer expresses his readiness to agree in anything calculated to promote the improvement of chirurgery, and to establish an amicable correspondence among its professors, but doubts that the constitution of the corporation was such as to render it likely that his joining the body would promote these ends: however, he concludes by proposing a conference on the subject.

Nothing appears to have been done at this time, for the correspondence was renewed in 1721. From this second correspondence we learn that many of the surgeons of Dublin, Mr. Proby among the number, were in the habit at that time of holding monthly meetings. Of these meetings, I believe, no other record exists.

Orders for the prosecution of surgeons and apothecaries practising without being free of the corporation frequently appear on the books. On the 29th October, 1729, a committee of nine was appointed to assist the Master in treating with the chirurgeons. At one time a dispute existed between this corporation and the guild of merchants, as to which was entitled to demand quarterage(*a*) of the apothecaries.

28th April, 1735.—Charles Lucas and others were admitted free, "as if they had respectively served their apprenticeships to free brothers of the fraternity."

18th July, 1737.—It was ordered that the suit commenced in

(*a*) See vol. vi. p. 87.

the name of the Treasurer of the city of Dublin, against Robert Adair, chirurgeon, then depending in the King's Bench on a *habeas corpus*, should be carried on and prosecuted at the charge and expense of the fraternity. I could not find any record of this trial in the books preserved at the Crown Office.

At a meeting held on 12th October, 1741, being quarter day, the corporation directed certificates of freedom to be issued to the President, Censors, and Fellows of the College of Physicians. This was preparatory to a plan brought forward at an adjourned meeting held a week subsequently, for the examination of surgical and pharmaceutical candidates for the freedom of the guild. The resolution of the corporation, having recited the objects for which it was established, and that the several arts of barbers, chirurgeons, apothecaries, &c., were considerable branches of physic or medicine, and that the well-being and regulation of the guild much depended upon a just subordination to their superiors in art, the physicians, and upon a just harmony and good understanding with them, goes on to state that the President, Censors, and Fellows, had, of their abundant humanity and regard to the public good, agreed as much as in them lay to assist the corporation in restoring the arts of chirurgery and pharmacy to their natural dignity and pristine utility to the public, and, for the better mutual communication and consultation, had condescended to accept of the freedom of the corporation. It was then enacted, that no chirurgeon should be admitted free of the corporation until he had undergone an examination by and before the College, and produced to the corporation a certificate of his due qualification under the hands of the President and Censors, and the seal of the College (John Nicholls, Esq., his Majesty's Surgeon-General, only excepted, who had already given sufficient proof of his merit and knowledge in his art); and that apothecaries should be admitted in a similar manner. It was also provided that, so soon as a sufficient number of free surgeons were thus admitted, a committee of twelve should be appointed by the corporation, of whom the Surgeon-General for the time being was to be the first; and that a like committee of twelve apothecaries should be, on the then next following quarter day, chosen out of the free brethren of the guild, by which committees all surgeons and apothecaries to be admitted should be openly examined before the President and Censors of the College, provided that, if the latter refused or neglected to attend, the Director and committee of each occupation might proceed to examine and certify without them. A surgeon, being Master or Warden of the corporation, was to preside over the committee of surgery; and an apothecary, being Master or Warden, was to preside over that of pharmacy, with the title of Directors; and it was provided, that one of each faculty should annually hold the office either of Master or Warden.

In the Transaction Books of the King and Queen's College of Physicians, there is a notice of this law of the barbers having been presented to them; the consideration of it was deferred to a future

occasion, and does not appear ever to have been entertained. It is most likely this law was never put in force, but its enactment proves three things:—first, that the necessity of a test on the admission of parties to practise surgery and pharmacy was at that time felt; secondly, that, at the time the resolution was passed, there were not twelve surgeons free of the corporation; thirdly, that there were at least twelve apothecaries who then possessed the freedom of the guild.

23rd June, 1744.—Charles Lucas, Esq., was elected Master of the corporation, and in the following November he was unanimously elected to be returned, with seven others, to the Lord Mayor, that four out of the eight might be selected as "numbers" to represent the corporation in Common Council. This was the mode of election, until, by the 33 Geo. II., the entire election was vested in the several corporations(*a*).

In October, 1762, the corporation petitioned the Lord Mayor, Sheriffs, &c., to restore to them the two representatives in Common Council, which had been transferred to the apothecaries' corporation.

In the list of the free brethren for 1771, the name of Charles Lucas, M. D., appears, with the following notice appended: "Died, greatly regretted by his brethren, the 4th November, 1771." Dr. Lucas was an active member of the corporation, and repeatedly served the office of Master. Numerous addresses to him appear in the Transaction Books, which, as well as other notices connected with him, may be useful to his future biographer.

On the 3rd December, 1781, a meeting was held to take into consideration an order of the Lord Lieutenant, referring to the corporation a petition presented to His Excellency by the principal surgeons of Dublin, together with the draft of a charter alluded to in the petition. The corporation was required to examine the allegations of the petition, and to report a true state of the case, together with their opinion whether there was any or what objection to granting the prayer of the petitioners. The petition was as follows:

"TO HIS EXCELLENCY FREDERICK EARL OF CARLISLE, LORD LIEUTENANT GENERAL AND GENERAL GOVERNOR OF IRELAND.

"The humble petition of Henry Morris, &c. &c. &c., on behalf of themselves and others the principal surgeons of the city of Dublin,

"Sheweth,—That by the royal charter bearing date in the nineteenth year of the reign of her late Majesty, Queen Elizabeth, the surgeons of the city of Dublin were incorporated with the barbers or peruke-makers.

"That since the grant of the said charter for uniting the said two professions in one corporation, those practising surgery have, from their sole study of, and constant application to the science of

(*a*) An Act for the better regulating the Corporation of the City of Dublin, and for extending the Power of the Magistrates thereof.

surgery, rendered the profession and practice thereof of great public utility to this kingdom; and that the barbers or peruke-makers belonging to the said united corporation, are now and for many years have been employed in a business foreign to and independent of the practice of surgery.

"That the surgeons, who are now become a numerous and considerable body, find their union with the barbers inconvenient in many respects, and in no degree conducive to the progress of surgical knowledge.

"That in the eighteenth year of the reign of his late Majesty, King George II., the surgeons of the city of London, who, from the thirty-second [year of the] reign of King Henry VIII., had been united in one corporation with the barbers, were separated from them, and made a distinct corporation, by means whereof the profession of surgery has been highly cultivated and improved in England.

"That your petitioners humbly conceive that a similar regulation in this kingdom would be a means of further improving the science of surgery, and of great advantage to the public.

"Your petitioners therefore humbly pray your Excellency to recommend to His Majesty, that His Majesty may be graciously pleased to grant his royal letters patent, under the great seal of this kingdom, for dissolving and vacating the union and incorporation of the barbers and surgeons by the said charter of Queen Elizabeth, and for making your petitioners, and such others as may hereafter be elected members, a separate and distinct corporation, by the style and title of 'The Royal College of Surgeons in Ireland;' with such powers and authorities, and under such regulations, as are contained in the annexed draft (which is humbly submitted), or in such other manner as to His Majesty in his great wisdom shall seem meet."

To this the corporation returned the following answer :—

"TO HIS EXCELLENCY FREDERICK EARL OF CARLISLE, LORD LIEUTENANT GENERAL AND GENERAL GOVERNOR OF IRELAND.

"MAY IT PLEASE YOUR EXCELLENCY :—

"In obedience to your Excellency's order, bearing date the 19th day of November last, whereby your Excellency was graciously pleased to refer to us the annexed petition from Henry Morris, William Ruxton, George Daunt, John Whiteway, Henry Lyster, Robert Bowes, Samuel Croker King, Gustavus Hume, John Neil, Philip Woodroffe, Francis Foreside, William Dease, and James Henthorn, on behalf of themselves and others the principal surgeons of the city of Dublin, together with a draft of a charter hereunto also annexed, and to which they, the said surgeons, in their said petition referred ; and that we should examine the allegations thereof, and report unto your Excellency a true state of the case, together with our opinion thereon, whether there is any or what objection to granting the prayer of the petitioners:

"We, the Master, Wardens, and Fraternity of Barbers and Chirurgeons, &c., or Guild of St. Mary Magdalene, within the city of Dublin, in full Hall assembled, having maturely examined the matters so to us referred, beg leave humbly to submit to your Excellency the following true state of the case, with our opinion thereon, and objections to the granting the prayer of the petitioners in the full extent which they desire, or dissolving the charter granted to our predecessors in the nineteenth year of the reign of Queen Elizabeth.

"We find that the barbers of the city of Dublin have been an ancient and loyal corporation, incorporated by royal charter granted to them and their successors for ever, by King Henry VI., in the twenty-fifth year of his reign, and were then considered, reputed, and allowed to be the only persons fit and properly qualified to exercise the art or mystery of chirurgery within the said city of Dublin, the liberties and precincts thereof.

"We also find that there afterwards appeared in the said city of Dublin, a society or community of men who took upon themselves to practise or exercise the said art, and assumed the name or appellation of chirurgeons; and that Queen Elizabeth of glorious memory, in the nineteenth year of her reign, upon the joint application of the then Master and Wardens and fraternity of barbers, and of the said society or community of chirurgeons, was graciously pleased by her royal charter to incorporate them together, and make them one body politic for ever, by the name of 'The Master, Wardens, and Fraternity of Barbers and Chirurgeons, of the Guild of St. Mary Magdalene within the City of Dublin,' with divers extensive and exclusive privileges to them and their successors.

"We find that the said corporation of barbers and chirurgeons was strengthened, enlarged, and flourished after the said union and charter of Queen Elizabeth, and all along cultivated, assisted, and improved each other, until some of the surgeons have of late years thought proper to absent themselves from the community, company, public assemblies, and offices of the said corporation of barbers and chirurgeons; but several of the said surgeons are still free brothers of the said corporation, and thereby enjoy the several privileges and immunities of citizens of Dublin.

"That the Master and Wardens, and each individual of the said corporation, are in duty bound to hand down inviolably to their successors the royal charter so granted to them as aforesaid, without any diminution, violation, surrender, or forfeiture thereof.

"We are therefore humbly of opinion, for the reasons aforesaid, that we cannot nor ought we, by any act or concurrence whatsoever, consent that the prayer of the petitioners should be granted, so as to dissolve, disannul, or make void the said royal charter so granted to our predecessors by the said Queen Elizabeth; and humbly submit to your Excellency that the same cannot be dissolved or disannulled without our incurring some forfeiture thereof, or surrendering the same; any such forfeiture whereof we, as faithful and

loyal Protestant subjects of the best of kings, shall always carefully and dutifully endeavour to avoid.

"Permit us at the same time to return to your Excellency our most sincere and unfeigned thanks for your candour and condescension in referring the said petition to this corporation.

"Given under our common seal, at our Hall in Back-lane, this 14th day of December, 1781.

(*Seal.*) "Caleb Hughes, *Master.*
Laurence Ball, } *Wardens.*
James Blacklin, }

"Daniel Bourne, *Clerk of Guild.*"

The charter was, however, granted, and bore date 11th February, 1784.

Notwithstanding the statement of the corporation, that several of the surgeons still (in 1781) possessed its freedom, there is abundant evidence to prove that, at least from the commencement of the eighteenth century, the great bulk of the professions of surgery and pharmacy was external to it. The resolution of 30th September, 1703, in reference to "foreigners, surgeons," and the frequent orders which appear on the books for the prosecution of surgeons and apothecaries for intrusion, in none of which prosecutions do they seem to have been successful, would be sufficient for this purpose. In addition, however, scarcely one of the hospital surgeons in the last century appears in the rolls of the corporation. Of the ten apothecaries whose names are mentioned in the charter of 1745, only three seem to have been free of the corporation of barber surgeons. Of 202 physicians, surgeons, and apothecaries mentioned in the Medical Review published in 1775, the names of but fourteen appear in the corporation roll; and as in the Medical Review the Christian name is not always given, it is impossible to say whether all even of this number belonged to the corporation or not. Some are sufficiently described to show that they did. Of the thirteen petitioners for the establishment of a College of Surgeons, but one, Philip Woodroffe, appears to have been free of the guild.

Several influential gentlemen (some of whom were non-medical) were members of the corporation; among these were William Clement, M. D., Vice Provost of Trinity College, and M. P. for the University; Rev. Thomas Leland, D. D. Senior Fellow, T. C. D., and author of a History of Ireland; James Digges La Touche, Esq.; Francis White Edgeworth, Esq.; &c. &c. Many of these, doubtless, joined the guild for the sake of the political privileges they thus acquired.

The charter of Henry VI. appears, as I mentioned on a former occasion(*a*), to have been lost; this probably occurred in 1754, when the charters of the corporation were given out to be translated. It is likely that it was similar to that granted to the barber surgeons in England fifteen years subsequently. If so, the suggestion I

(*a*) Dublin Quarterly Journal, vol. vi. p. 76.

formerly threw out, that the profession of pharmacy in Ireland originally branched from that of surgery, receives additional confirmation; for the charter of Edward IV. gives the English barber surgeons authority to inspect the instruments, plasters, and other medicines used by the faculty: "Necnon supervisum et scrutinium omni modorum, instrumentorum, emplastrorum, et aliarum medicinarum, et eor recept. per dictos barbitonsores et surgicos hujusmodi ligeis nostris pro eorum plagis et vulneribus, lesionibus, et hujusmodi infirmitatibus curand. et sanand. dand. imponend. et utend. quotiens et quando opus fuerit pro commodo et utilitate eorundem ligeorum nostrorum;" thus constituting them, in fact, a faculty of surgeon apothecaries(*a*).

I have thought that I should best secure the preservation of these documents, by presenting them to the library of Trinity College. Those which I have there lodged are the following:

1. The charter granted by Queen Elizabeth; 1576.
2. The patent or grant of Arms by Charles I.; 1645.
3. The charter by James II.; 1687.
4. A translation of Elizabeth's charter; 1781.
5. Three freemen's rolls on parchment.
6. Two ancient keys.
7. The silver seal of the corporation; date 1673.

The above are contained in a wooden case covered with red leather, bearing the arms of the corporation, and the following inscription:

"This case, containing the charters of the Corporation of Barber Chirurgeons, &c., was repaired A. D. 1808.

"George Gillespie, *Master.*
James Leahy, } *Wardens.*"
John Clarke, }

The books are as follow:

The Book for Enrolment of Apprentices, of which four leaves are of parchment; date 1535. The rest of the book is of paper; earliest date 1587.

2. Book of Quarterages and of Entry of Foreigners; 1688.
3. Transaction Book; 1703.
4. Book of Bonds; 1705.
5. Transaction Book; 1757.
6. Book of Lists of Brothers; 1758.
7. Transaction Book, entitled the "Book of Laws and Statutes," &c.; 1792.
8. Transaction Book, entitled the "Book of Laws and Statutes;" 1826.
9. Roll Book; 1827.

(*a*) See Dr. Gray's Report on the Professions of Physic and Surgery. Dublin, Browne, 1845, p. 14. Also Willcock's Laws of the Medical Profession, p. clxviii.

MEDICAL MISCELLANY.

Case simulating Pericarditis, in which a Friction Sound was produced by Emphysema of the Anterior Mediastinum. By Alfred Hudson, M. D., Physician to the Fever Hospital, Navan.

As I am not aware that a case similar to the following has been before reported, I offer to the profession, through the pages of the Dublin Medical Journal, the following short notice of it.

Patrick Murtagh, aged 12, was admitted into the Navan Fever Hospital on the 12th of January, 1849. He states that for the last fortnight he has suffered from cough and dyspnœa, and three days since was attacked with severe vomiting and purging, accompanied by frequent shiverings and violent palpitation of the heart.

At my visit on the 13th, his face presented a livid, sickly paleness of colour, with an anxious expression; the eyes were glassy and sunken; the lips livid; heat of surface low and variable; the chest seemed somewhat rounded anteriorly, the clavicles standing forward with a deep hollow above them. He had a frequent, short, hard, and dry cough, with extreme dyspnœa and pain across the chest.

The præcordial region was dull on percussion over a large extent. The heart's impulse was strong and heaving; the sounds were clear and distinct, but were accompanied by a rough crackling frottement; this was most distinctly heard over the base of the heart, and a little to the left of the sternum. The character of this friction sound differed in no way from that attending pericarditis with copious effusion of lymph; and the only thing which struck me as at all peculiar in it, was its remarkable distinctness from (though perfectly synchronous with) the sounds of the heart. As, however, it continued when the respiration was interrupted, I did not doubt that it was owing to effusion in the pericardium. The pulse was 110, hard, and small; the tongue red and thickly coated; urine scanty and high-coloured, &c.

The treatment pursued, without any relief, even of a temporary character, consisted of repeated application of leeches to the præcordial region, blistering, and mercurial inunction.

On the 14th it was noted that both sub-clavicular regions were dull on percussion, and also the entire of the left side as compared with the right; respiratory murmur loud and prolonged.

On the 15th there was great prostration; the heart's action was so faint as to be scarcely perceptible; no pulse at the wrist; the body and extremities became cold. He rallied somewhat, but the breathing continued much oppressed, the jugular veins much dis-

tended, and the body covered with a cold clammy sweat. During the night the heart's action became intermittent, and the respiration a convulsive gasping; and at 11 A.M., of the 16th, he expired.

On raising the sternum, and bringing the pericardium into view, the natural semi-transparency of this membrane showed that it had not been the seat of inflammation. The same view disclosed a remarkable appearance of the areolar tissue of the anterior mediastinum, which was distended with air, as if artificially inflated; and as it overlapped the base of the heart it was evident that it must have been compressed by this organ during its forward impulse, so as to cause the crackling sound heard during life.

On opening the sac of the pericardium, the right auricle and ventricle were found distended (the former very much so); the auricle contained a large coagulum of very dark blood (of a tarry colour), in which were scattered numerous globules of air. The ventricle contained a smaller quantity of dark blood, and a fibrinous polypus of apparently some standing, granular in its fracture, and soft and semi-fluid in the centre.

The valves of the heart were healthy. The left lung was much congested, and was infiltrated throughout its extent with grey tubercle, as was also the upper lobe of the right. Nothing else worthy of note was observed during this dissection.

This was evidently a case of acute phthisis, in which the obstruction to the pulmonary circulation had probably produced the great accumulation of blood in the right side of the heart, and the polypus which was found in the right ventricle. How the air was introduced into the mediastinum and right cavities of the heart (the only situations in which it was found), I am unable to say; but I have no doubt whatever as to its being the cause of the physical sign which led to the diagnosis of pericarditis, corroborated as it seemed to be by the rational symptoms.

Case of Ramolissement of the Brain. By SAMUEL G. WILMOT, M. D., one of the Surgeons to Dr. Steevens's Hospital.

THE obscurity in which diseases of the brain are involved, and the frequent difficulty of connecting with any particular morbid lesion a special train of symptoms, render it incumbent upon every one to record whatever circumstances relative to these diseases he may become acquainted with. The following case, invested as it is with so many points of interest and of peculiarity, was a private one of Dr. Croker's, in which I was merely called upon to institute an autopsical examination; he has, however, most kindly permitted me to turn it to the best account. It is to be regretted that the history of this case is not fuller and more complete, but it is to be ascribed to the fact, that Dr. Croker was not in attendance during the first and longest part of the child's illness, having been called in only when the symptoms began to assume a formidable aspect; we were obliged, therefore, to seek for the circumstances connected with the

early history of the case in another source, from whence we drew but few satisfactory particulars. For the accuracy of the *post mortem* details I can vouch, corroborated as they were by Dr. Croker, in whose presence I made the examination.

A little girl, aged eighteen months, always of full appearance and stout, of lively manner, was healthy previously to the winter of 1847–8, when she was seized with a cough which was invariably renewed by taking her out in cold weather; each repetition of her cough was ushered in with a good deal of bronchitis. In the succeeding summer, having been removed to the sea-side, her cough entirely ceased. September last, upon being brought back to town her cough returned; at this time there were mucous râles audible over the chest; they yielded, however, to mild treatment, in conjunction with occasional hippo emetics; more or less cough, however, continued. At Christmas a spasmodic character was superadded to the cough, which became dry: the paroxysms invariably seized her at night. During the winter her face was observed to be somewhat livid. For the last four months before her death she rebelled against solid food, but drank with avidity, after which she sometimes vomited. Bowels generally regular. Teething was accomplished quickly, and without any concurrent disturbance, except a diarrhœa which lasted for a short time.

On the 4th of May, Dr. Croker, for the first time, saw the case. The child then laboured under acute inflammation of the lungs and some cerebral affection, evidenced by slight twitching of the muscles of the face, strabismus, and occasional convulsive actions. There was in addition violent cardiac disturbance. The appropriate remedial agents were directed towards the pulmonary and cerebral affections, and a belladonna plaster applied over the heart. On the 13th of May the child died.

Autopsy. Head.—On raising the calvarium and removing the dura mater, the longitudinal sinus, with its contributory veins, were found to be filled with either pure fibrine or with solid coagulated blood, which gave them a remarkably firm, resisting feel. The brain appeared increased in size, being seemingly too large for the cavity of the cranium, and was everywhere morbidly soft. The anterior lobes, particularly the right, presented the following very striking and anomalous appearances. Beneath the arachnoid membrane, covering their superior part, a thin layer of blood was extravasated, and over, and for some extent around this, the blood-vessels were distended to their fullest degree with fibrine, being thus completely clogged; many of them were double the thickness of whipcord, and were nearly incompressible. When a transverse section of the anterior lobes, from above downwards, was made, the substance of the brain was found to be completely disorganized, being reduced to almost the fluid state; blood, and apparently some pus, were blended through it. The appearance presented to the eye might be aptly compared to raspberries bruised through cream. Some arteries obliterated with fibrine could be seen passing through this softened mass.

Chest.—Upon raising the sternum the pericardium was seen to be distended with serum, and slight adhesions, not of recent date, united the left side of the bag with the corresponding lung. The right lung was extensively emphysematous, and its posterior inferior lobe presented the characters of the first stage of pneumonia. The left lung was less emphysematous, but its posterior portion was completely hepatized.

Abdomen.—The viscera of this cavity were for the most part healthy, with the exception of the liver, which felt firmer than usual, and contained much bile.

The *post mortem* indications in the lungs in this case fully prove the supervention of recent acute pneumonia upon a pre-existing chronic affection, and show the correctness of the diagnosis. It is in the brain, however, which furnishes so well-marked an example of ramollissement, that are to be found morbid anatomical features of high interest, the causes of which give no small scope to pathological reasoning. Two opinions are maintained relative to the pathology of ramollissement of the brain: first, that it results from inflammation of its substance; second, from obliteration of its vessels. The latter view was particularly taken by the French pathologists, amongst whom was M. Rostan, who compared the disease to gangrena senilis. Abercrombie considers that it arises from both causes, and looks upon it as simple gangrene resulting in the one case from intensity of the inflammatory process, in the other, from a deficient supply of blood to the part. Carswell also recognises both these conditions as causes of ramollissement. Andral appears to indirectly coincide with the same opinions. In the case before us the substance of the brain was diffluent almost to liquefaction; blood was thickly interspersed through it, and many of the vessels were obliterated with fibrine. Two questions then at once suggest themselves:—First, Which of the acknowledged causes of softening produced the change in this instance? Second, If it be determined that the morbid condition was due to the obliteration of the vessels, and not to inflammation of the substance of the brain, what was the cause of those fibrinous plugs which rendered the vessels impervious? Judging from the early age of the patient, and the circumstance that softening from obliteration is generally considered to be peculiar to advanced life, when it would appear to arise from ossification of the arteries, we would be inclined to attribute the morbid condition of the brain to previous inflammation of its structure, and the state of the vessels as also a result of the same. But this presumption is at first weakened by the consideration that the history of the case affords no evidence of inflammation of an acute character having ever existed, and is finally negatived by the fact, that this state of vessels is an occurrence I have never known to result from inflammation of the brain.

Indeed Carswell, after stating that softening of the brain from obliteration of the arteries occurs only in advanced life, says, that the distinguishing physical feature between softening, the result of obliteration of vessels, and that from inflammation, is alone to be

found in the condition of the vessels. And Watson lays down the following negative proposition, viz.: "If we find the arteries impervious we conclude that the softening has not been inflammatory." In addition to these arguments it may be mentioned that the presence of inflammatory products through the diseased mass was not very satisfactorily ascertained; they must have been very scanty. Since, then, we have sufficient data upon which to reject the opinion that these remarkable morbid appearances originated in inflammation of the brain, we must only seek the cause of softening in the other condition that can produce it, viz., obliteration of arteries: we are compelled, therefore, to find an answer to the second question put. The only rational mode of accounting for those fibrinous masses which rendered the vessels impervious, that I can find, is upon the supposition of inflammation of their lining membrane, which produced, as it always does in other parts, first, simple coagulation of blood, and then deposition of pure fibrine; the vessels thus becoming impervious, and the brain, as a necessary consequence, dying from insufficient nourishment. If this view be correct, we are furnished in the present case with a cause of ramollissement of the brain, of which the high authorities previously quoted seem not to have taken cognizance. We will also be able to establish a more complete analogy between this disease and dry gangrene, which is now admitted to arise from two distinct states of the arteries, one from inflammation of the internal coat, which may occur in the earlier periods of life; the other from ossification, which is confined to the latter part of life. In the brain of the present case there was an additional cause of disorganization in a corresponding impervious state of many of the veins by the very same substance. The extravasation of the blood can be readily accounted for by the rupture of some of the unobliterated vessels in consequence of the increased impetus and undue pressure of the blood from the impervious state of the collateral branches, assisted, probably, by the violent fits of coughing to which the little patient was latterly subject, and the loss of support to the vessels by the softened state of the parts.

Case of ruptured Intestine; with Observations on the Cause of Pain in Perforation of serous Membranes. By Maurice Henry Collis, M. B., L. R. C. S.

A groom of about thirty-five years of age, of spare make and temperate habit, was brought into hospital the second day after receiving a kick in the abdomen from a horse, labouring apparently under symptoms of incipient peritonitis; that is to say, he had a rapid pulse, not, however very small or wiry; headach, nausea, foul tongue, and diminished secretions; the belly was both tender and painful, distended, clear on percussion, except at the spot where he had received the blow (about an inch above the left internal ring). The constitutional symptoms disappeared under the ordinary antiphlogistic treatment; but the abdomen remained swollen and tympanitic, except in the one spot, where he felt a constant dull pain. The diagnosis made was rupture

of the mucous and muscular coats of the intestine, and effusion of the bowel contents between the layers of the mesentery, whence the gas made its way into the cavity of the peritonæum, while the solid fæces remained there, giving the dull sound, and forming a centre from which inflammation might spread at any moment. The prognosis was favourable, provided the patient could be induced to remain perfectly quiet. Patients with such an affection suppose themselves well long before they are safe from fatal peritonitis. A case exactly similar to this was brought into St. Louis, in 1823, and terminated fatally from some exertion on the part of the patient. M. Jobert, who kindly gave me the particulars, found, on dissection, a small recently formed sac of pyogenic membrane round the effused fæces, which were hard and solid; the peritonæum in the neighbourhood was in a state of subacute inflammation, and from a rent in it some of the fæces had escaped, giving rise to the general peritonitis which proved fatal. In another patient, who had recovered from a similar accident, and died subsequently from phthisis, the small intestine was found slightly contracted at the seat of the injury, and bound to the side, just above the crest of the ilium, by a white fibrous band. The treatment in all cases should be perfect rest, a mild diet, and to watch the dull spot, and leech it when painful. In the present case this plan was successful; the air disappearing very soon, and the local dulness and pain being removed in about six weeks. The mode of cure consists in the formation of a simple fibrous membrane round the fæces, which being absorbent, as all primary membranes are, removes all that can be absorbed, and then secretes pus, and floats the rest into the intestine, or else, contracting round it, pushes it in and closes up the opening.

There is one point connected with this case of considerable interest generally, viz., the immediate great pain and inflammation on the admission of air into a serous cavity. Of the *modus operandi* of air in causing inflammation, I have never heard any explanation; on the contrary, most persons express surprise at so mild an agent proving so irritating to serous and other membranes; it is, therefore, with some diffidence that I suggest the simple explanation, that it is the nature of air, especially when warm, to abstract moisture, until saturated, from all substances with which it is in contact. Moisture is necessary to the vitality of all tissues, both animal and vegetable, and increased evaporation must be met by increased secretion or exhalation; now healthy serous membranes naturally secrete but little fluid, and an extraordinary call for it produces excessive subserous vascularity, exhalation of the more fluid parts of the blood, in a word, inflammation; and that with a rapidity so great, that we cannot say that it spreads from the injured spot where perforation has taken place. This effect we can see in the case of an ulcer, from which the protective pus has been wiped, in cuticular and mucous membranes from which the epidermis or epithelium has been removed, and in those mucous membranes which have little or no epithelium, but where its place is supplied either by exhalation, as in the minute bronchi and pul-

monary vesicles, or by special secretion, as in the conjunctiva. In all these, when they are not protected from excessive evaporation, dryness and inflammation are the result of the simple law of nature by which air attracts to itself all watery vapour to which it has access. The pain, also, in cases of perforation of the pleura, is similar to that of acute dry pleuritis, and in those cases where the pleura is protected by false membranes, or by purulent secretion, it is never so severe. Perforation or rupture of the uterus and bladder is seldom attended with the violent pain that accompanies lesions of the intestines; most likely from the absence of air in such injuries. There are, in fact, numerous phenomena, both of health and disease, which depend on this simple law, the study of which would yield us much profit; such as the formation of cuticle and epithelium, the secretion of pus, and endless forms and varieties of inflammation.

History of a Case of Cancer of the Brain. By Henry Carline, Assistant Surgeon, 6th Dragoon Guards.

J. E——, aged nineteen years and seven months, was first admitted into hospital August 28, 1846. He is a native of Shrewsbury, a bricklayer by trade, five feet seven inches and a quarter high, with dark complexion, brown hair, and hazel eyes, ten months' service, robust and healthy-looking, and says that he has always enjoyed good health. He has used mercury once for a protracted attack of venereal affection. He now complains of debility of both knees, which he says renders him unable to stand for any length of time, but it is unattended with pain or swelling, and has been coming on gradually; pulse regular; tongue clean and moist. He was ordered: friction with ammonia liniment twice a day; cathartic pills at bed-time, and cathartic draught in the morning.

The cathartics and friction were persevered in, and he was discharged quite well on the ninth day. He does not appear to have been again admitted into hospital until the 8th September, 1848, although, while on detachment at Belfast, he repeatedly complained of severe pain in the head, but the existence of which was doubted, as neither the pulse, the tongue, nor derangement of any function indicated its existence. On this day he was re-admitted, complaining of pain in the temples and forehead; pulse regular; tongue clean; free from nausea or internal pain; bowels confined. Aperients were used; cold applied to forehead, and blisters to neck.

20th. He says the pain in the forehead continues to trouble him during the night; pulse regular; skin cool; tongue clean and moist, free from thirst; blisters frequently repeated to occiput, forehead, and temples; cathartics occasionally; tonics and alteratives. On the 26th of September he was free from headach, and continued so up to the 9th October, when he was dismissed from hospital.

November 22nd. He was re-admitted this morning. He again complains of frequent attacks of acute pain, coming on at intervals, and apparently situated in the frontal sinuses; pulse natural;

tongue clean and moist; bowels free; no nausea or thirst. He was treated with aperients, alteratives, tonics, and blisters.

December 4th. The pupil of the left eye is considerably dilated, and does not contract freely when tried in the usual way. The eye-lid droops so as nearly to cover the eye, and there is slight lachrymation, but no pain present; complains of dimness of sight, and of seeing double; free from headach; digestive functions apparently healthy and regular; blisters continued, and mercury used.

6th. The left pupil continues dilated, and vision of the left eye double, and dim; the eye-ball is also slightly prominent; there is considerable lachrymation, but no pain, redness, or intolerance of light; drooping of the eye-lid is less; gums tender; cathartics, blisters, and mercury continued.

22nd. The pupil has now nearly acquired the natural size, and there is very little drooping of the eye-lid; gums tender.

26th. He complains this morning of severe aching pain, commencing in the left eye, and extending to the forehead and left temple.

29th. The pupil is now quite natural, and vision is perfect; but he still complains of pain in both eyes, moving to the forehead, particularly during the night; pulse regular; tongue furred; gums sore; bowels confined; mercury omitted; blisters applied to neck; and had aperients.

30th. Blisters rose well; pain was not so severe last night as formerly, but he says that his eyes are very painful this morning; pulse regular; tongue slightly furred; bowels moved twice this morning. Ordered two grains of the iodide of iron twice daily.

January 5, 1849. He complains of having had severe and shooting pains above the left eye-brow, on the left temple, extending down along the cheek, causing him to pass a very restless night, and which still continues very severe; pulse 90, and small; tongue furred in the centre; bowels confined; leeches applied to the temple; cathartics and sesquioxide of iron substituted for the iodide; anodyne draughts at night; and friction with camphorated mercurial ointment on forehead.

14th. He has passed a good night; and is free from pain.

29th. He remained free from pain, in a great measure, until the end of the month, when he had slight attacks of pain at 10 P. M., and which continued for half an hour, and he would then continue free from it until the next night. Disulphate of quina gr. ii., twice a day, and anodyne draught continued at bed time.

February 1st. He is free from complaint, but is very weak.

11th. He has not had any return of pain, and is gaining strength very fast; functions natural; appetite very good; the quina to be continued, but the anodyne omitted.

17th. He is returned as convalescent, and continued so until March 7th.

He now complains of great pain in the left eye, which is more prominent than the right; the pupil acts very sluggishly, and is much larger than natural; there also is deafness of the left ear, and

loss of smell; pulse and skin are natural; tongue very clean; bowels moved regularly, and evacuations healthy-looking. Cupped on neck, which greatly relieved him; seton through neck: no medicine.

8th. The pains are much less severe; he was ordered a scruple of sesquioxide of iron, and ten grains of jalap, twice daily.

10th. He had an interval of two hours last night free from pain, and when it returned it was much less severe; the seton discharges freely; thinks that the quina agrees much better with him than the iron, it is, therefore, repeated as before, and a draught containing morphia at night.

14th. The pain has continued to intermit at irregular intervals, since last report, the intermission sometimes continuing for three or four hours, but he continues much the same in other respects; seton discharges well. To have two grains of sulphate of quina every sixth hour; the morphia draught to be continued.

April 13th. He has continued to improve daily, the intervals of pain being much longer, and the pain subsiding in thirty or forty minutes after taking the quina; seton has discharged freely throughout; pulse, skin, and tongue, are natural; bowels regular, and evacuations healthy-looking; appetite very good.

15th. He continued much the same until this morning, when he stated that he could not sleep at all during the night, from the severity of the pain in the left half of the forehead, temple, and front of the left ear; he speaks with difficulty, and does not answer questions readily, and the countenance is of a pale leaden hue; the left eye is more prominent; lips blanched; pulse 60, very small and weak; skin below natural temperature, but not moist. To have a draught with twenty drops of the stronger water of ammonia in an ounce of camphor mixture. 4, P. M. He is now asleep, and breathing quite easy; pulse 60, very small and feeble; skin natural temperature; he has not taken anything to-day since his tea at breakfast-time, and his beer at dinner. No medicine; half an ounce of arrow-root and an ounce of wine immediately, and to be repeated in four hours. 6, P. M. He awoke, and took his arrow-root and wine, and shortly afterwards fell asleep again. He now lies on his left side; breathing quite easy, but occasional convulsive twitches of the left upper eyelid occur.

16th. He passed a good night, and feels tolerably easy; countenance is much better; pulse 60, very small, and very easily compressed; skin rather cold, but free from moisture; tongue clean; bowels regular. Continue his arrow-root and wine every four hours. Morning.—He has been sleeping the greater part of the morning, and is so now; there are not any convulsive twitches of the left upper eye-lid. Evening.—He has been easy throughout the day, and continues so now, but is the same in other respects.

17th. States that he had pain for a short time once during the night, but is quite easy now; he speaks as usual, and the cadaverous appearance has nearly disappeared; left eye is not so prominent, and lips are nearly natural; pulse 60, very small and weak; skin is

nearly of its natural temperature; continue arrow-root and wine. Morning.—He has continued quite easy throughout the morning; seton discharges very copiously. Evening.—He has not had any return of pain, and appears easy, but very restless, and requires rather to be roused before he answers any questions; pulse and skin are the same as in the morning.

18th. Complains of sickness at stomach, with occasional vomiting of brown grumous fluid; pulse 60, very small and weak; skin slightly below natural temperature; tongue clean but flabby-looking; bowels not moved since the 16th inst.; slight deafness has returned, and dulness. A cathartic enema, with castor oil and oil of turpentine, was administered, and a bottle of hot water to the feet. Continue arrow-root and wine every four hours. Morning.—The injection brought away one very copious dark brown scybalous evacuation; he has had his arrow-root and wine, and no return of sickness or vomiting; pulse continues very weak and small, and skin below natural heat. Evening.—He lies on his left side, fast asleep; breathing is easy and quite natural; he awoke at 4 P. M., and took his arrow-root and wine, which he appears to enjoy very much.

19th. He slept throughout the greater part of the night, and was, in a great measure, free from pain; heart's action is very feeble, and pulse exceedingly small; skin is of its natural heat; tongue tolerably clean, but is flabby-looking; bowels moved once copiously; the evacuation was healthy. No medicine; continue extra diet every four hours. Evening.—He is reported as having been tolerably quiet throughout the greater part of the day, but he is sleeping quite quiet now, and lies on his left side, breathing naturally.

20th. Passed a very good night, and had slight return of pain only early this morning; pulse 60, more full and soft; skin natural temperature; tongue clean and less flabby-looking; bowels regular. Continue nourishment.

21st. He has been quite easy since last report, with the exception of half an hour last evening, when he had slight pain; pulse 60, more full and less weak; skin natural; tongue clean; bowels moved once, evacuation healthy-looking. Continue nourishment.

22nd. He is free from pain, and had only one slight return of it since yesterday, and appears much better in other respects; one healthy evacuation since yesterday morning. Continue nourishment.

23rd. States that he has had two very slight attacks of pain, one last evening and the other this morning; pulse 60, tolerably full and soft; skin natural; tongue clean, but rather flabby-looking; bowels moved once; seton discharges copiously. Continue nourishment.

24th. Passed a good night, and feels quite easy, no return of pain since last report; bowels moved once; appetite very good; no medicine: chops and bread.

26th. He has continued tolerably free from pain since last report; seton discharges freely; bowels regular.

29th. The seton has been withdrawn (the sinus is obliterated, and the punctures are all but healed up), and he is proposed for invaliding at this inspection, as labouring under nervous affections dependent upon some organic disease of the brain and left optic nerve.

May 11th. This man has continued much in the same state, i. e. countenance dull, and of a pale leaden hue; defective and double vision of the left eye, which is more prominent than the right, and pupil much dilated; almost total deafness of left ear, loss of smell, defective utterance, mouth somewhat distorted, and occasional slight pain in the left eye, left half of the forehead, temple, and down the left cheek in front of the ear, with a pulse seldom varying from 60, very small, and exceedingly compressible; skin slightly below natural temperature, but not moist; tongue clean, but flabby-looking and pale; bowels tolerably regular, and evacuations healthy. At 10 this morning he became exceedingly restless, tossing his head from one side of the pillow to the other. He was comatose in less than half an hour, and expired without a struggle in three hours and a half, at half-past 1, P. M.

The *post mortem* examination was made twenty-one hours after death. The body was very stout, muscular, and extremely fat; it was in a rapid state of decomposition. On removing the calvarium, there was general congestion of the vessels of the surface; the upper portion of the membranes having been removed, the left anterior lobe of the brain was found firmly adherent to them, corresponding to the left orbital plate, left wing of the sphenoid, and anterior portion of the left temporal bones; the greater portion of the base of the anterior, the entire of the middle, and part of the posterior lobes, left side, were in the third stage of softening, being as fluid as cream. This softening extended upwards to a line on a level with the roof of the lateral ventricle; sprouting from the centre of this was a firm cancerous mass(*a*), about the size and shape of a fig, and which pressed upon the *left optic nerve*, and the *supra-orbital branch of the fifth pair*, partly enveloping them. The floor of the left lateral ventricle was healthy, but both were filled with transparent serum; the *olfactory nerves were degenerated into a very soft, reddish-brown, pulpy mass*, and

(*a*) The tumour was of a dense consistence, exuding a creamy fluid when cut or scraped; it was of a grayish-yellow colour, exhibiting in one part minute capillary injection. A thin section examined under the microscope with a power of 250 linear, presented a fibrous structure, arranged in striæ, imbedded in which were nucleated corpuscles (cancer-cells), and several compound granular cells, which were rendered much more transparent on the addition of acetic acid. The creamy fluid scraped from the surface of the tumour contained numerous minute granules, compound granular cells, and nucleated corpuscles.

I was assisted in the *post mortem* examination by my friend, Dr. Neligan, who saw the patient with me several times during his illness; and I am also indebted to him for the account of the microscopic appearance of the tumour.

the anterior lobes of the brain were firmly adherent together: the cerebellum was perfectly healthy. On removing the bony plate of the left orbit, a large quantity of adipose matter was found enveloping the muscles of the eye.

Chest.—The lungs were pale-looking, and emphysematous; the heart had large deposits of fat on the surface, but it was perfectly healthy.

Abdomen.—Between the skin and muscles of the abdomen there was a layer of fat, at least one inch in thickness; the viscera were loaded with fat, but the whole of them were perfectly healthy.